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internet

magazine

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Web sites
reviewed

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Web graphics

Labs Test Scoop!

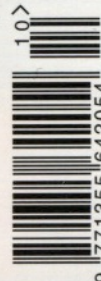
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An Emap Active
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October 1999, Issue 59

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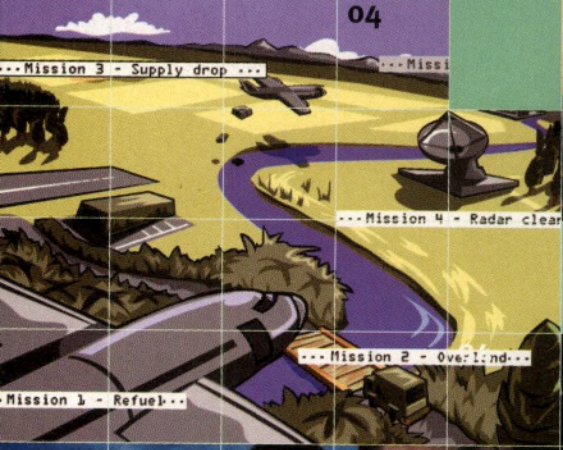
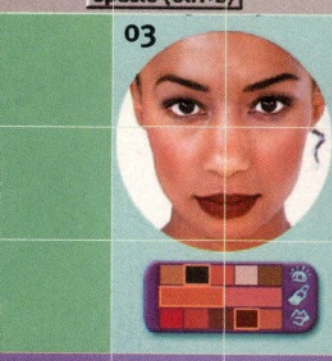
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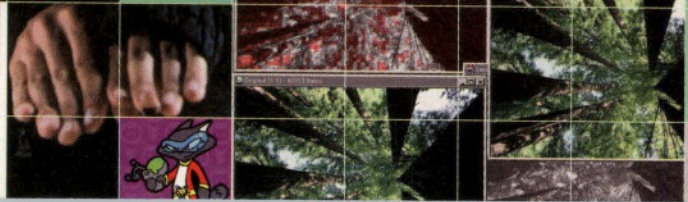
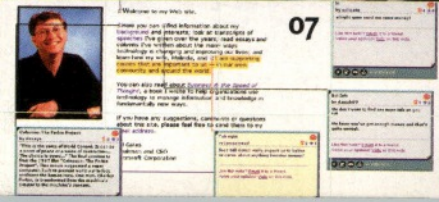
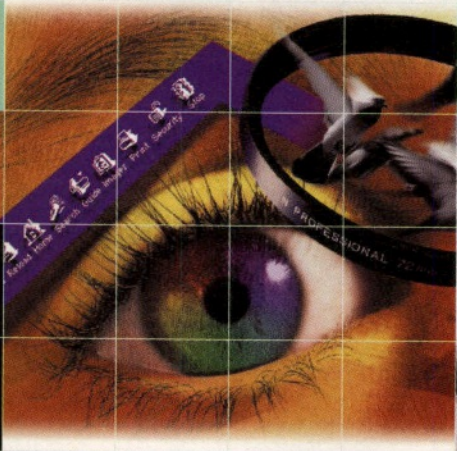
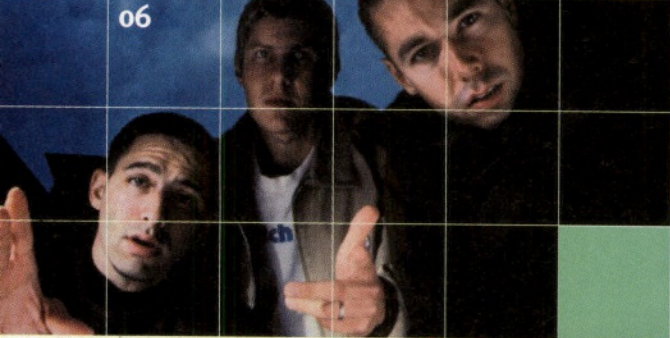
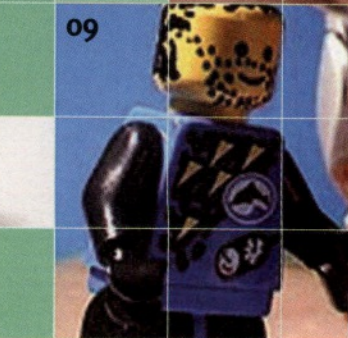
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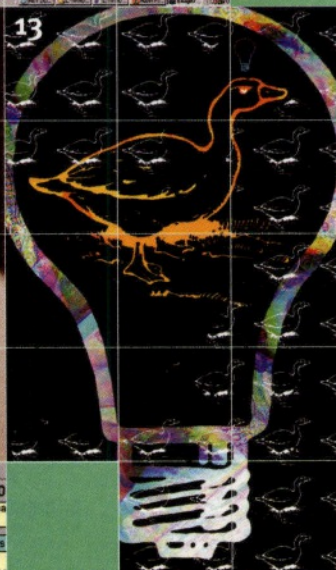
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Apple's latest beauty, the iBook, was built with the Net at its core

Turn over for full contents

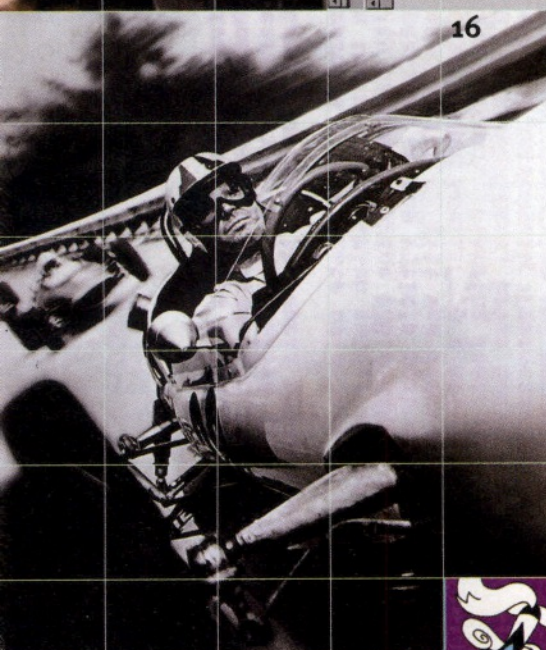


Report for www.microsoft.com [207.46.130]

Analysis: Connections to HTTP port 80 on host 'www.microsoft.com' are working, but ICMP ping 'Microsoft' at hop 13. It is a HTTP server (running Microsoft IIS 5.0).

Hop	IP Address	Node Name	Location	ms
0	212.146.126.140	host212-146-126-140.host.tticlick.com		136
1	212.146.89.195	east01hg-f-cisco.mdp.bt.net		136
2	192.168.1.10			136
3	82.172.108.83		(United Kingdom)	135
4	195.90.120.146	core2-fe-4-0-0.saling.bt.net		132
5	195.90.120.198	core1-h-0-0-5.telehouse.bt.net	Docklands, UK	140
6	194.74.16.4	trans02-fe-1-1.telehouse.bt.net	Docklands, UK	136
7	188.48.11.249	bordercore4-hs00-0-0.WestOrange.cw.net	West Orange, NJ, USA	231
8	204.70.9.138	ngcore01.WestOrange.cw.net	West Orange, NJ, USA	225
9	204.70.9.129	ngcore1.Seattle.cw.net	Seattle, WA, USA	300
10	166.49.76.1	ms-core1-loopback.Seattle.cw.net	Seattle, WA, USA	294
11	166.49.26.10		Cam, NC 27513	303
12	207.46.129.5	icpmcscm7503-a0-00-1.cp.msf.net	Redmond, WA 98052	330
13	207.46.129.5	icpmcscm7503-a0-00-1.cp.msf.net	Redmond, WA 98052	326
14	207.46.130.149	www.microsoft.com	Redmond, WA 98052-4	

Legend: (private use) (gratuit use) BT Public Internet Services LAN e BTNet Intrastar Cable & Wireless Cable & Wireless Cable & Wireless Cable & Wireless Cable & Wireless Microsoft Microsoft



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Browser

- 12** Beeb launches free ISP, Head baker quits Currant Bun, ISP shares up for grabs and 'Live Aid' comes to the Net. Plus Mark Goodier gives us a look at his bookmarks and we visit the wild, wild Web

SERVICES

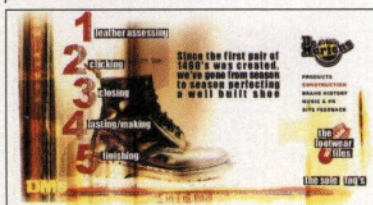
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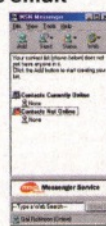
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 We find the UK's best performing Web hosting companies in our tests



Back



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Home



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Favorites



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Editor's welcome

Birthday greetings



Hello and welcome to the October issue of *Internet Magazine*, the "straightforward, practical guide to what's happening on the world's fastest growing network of networks". That's a quote from the launch

editor's welcome in this magazine five years ago, and it still fits today.

Happy birthday to us. Yes, we're five this month.

How far have you come in five years? Tom Hanks went from the Oscar glory of *Forrest Gump* to the cheesy e-romance of *You've got Mail*. Madonna went from *Bedtime Stories* to *The Spy Who Shagged Me*, and Blackburn Rovers slid from the top of the Premiership to the Nationwide League.

I've done my bit to help increase the population of the world by one and landed my most exciting job so far. What about you? If you've been involved with the Internet as long as we have, drop me a line and tell me what's changed and what hasn't. The most entertaining will be printed in Mailbox.

A look back at the first ever issue of *Internet Magazine* is a pleasant experience. Our use of the Courier font for all Web and email addresses looks quaint, but our description of the Web's "pages" and "over 5,000 sites" viewed with the Mosaic browser was cutting edge stuff in 1994.

We listed just 12 UK Internet service providers five years ago. Today we know of 212, and they're just the free ones.

Throughout this issue we've made references to the Internet five years ago, and as I scan through them it's evident that we've had a lot of fun. I also get the feeling that the fun has only just begun.

Martyn Moore
Editor
martynm@internet.emap.com



get the best from

FreeUK It's a free world

No subscription charges or software to install – it's the service with style and a smile

FreeUK is a free, independent Internet service provider serving the Net community within the UK.

It offers a completely free alternative to paid-for Internet access and email services. FreeUK is different because its values take the Internet back to its roots – it doesn't exist simply as a commercial platform for banner advertising.



FreeUK has created its own set of pledges, which it promises to honour. These are:

- We believe the Internet should be free
- We don't believe in subscription charges
- We don't believe in monthly fees
- We don't believe in setup charges
- We pledge to bring you this service with style and a smile!
- We'll remain true to our core values of quality and style

A FreeUK account is the ideal Internet solution for anyone, whether you're a



new user to the Internet or an existing user looking for a refreshing alternative to your current ISP. The service is designed to be easy to use, as well as including stylish factors that are often overlooked by ISPs.

Your FreeUK account gives you unlimited Internet access, 25Mb of Web space to play with, newsgroup access, unlimited email addresses and a 24-hour technical support hotline in case of any problems.

FreeUK supports V.90 modems, ISDN and Windows 95, Windows 98, Windows NT and Mac operating systems.

Disclaimer

Please note: manufacturers will not support demo software and you install these programs on your machine at your own risk. We have tested them for viruses and corruption, and at time of shipping these all checked out fine.

Internet Magazine and EMAP Active cannot be held responsible for any problems arising from their use, or for the failure of any programs to run correctly.

You'll find most of the software on this CD is shareware. Shareware developers put in a lot of work for little return and you should register software you continue to use after the evaluation period. Charges for shareware are usually very modest and registration entitles you to customer support and free or cheap upgrades.

Using your CD

The interface for the CD is written in HTML, which means you can open it in any browser. Just open up your browser, select the File Open option, access your CD drive and then load up the file index.htm.

If you don't have a browser, fear not. We've thoughtfully included the latest versions of Netscape Communicator and Internet Explorer on the CD for Windows 9.x/NT4 and the Mac. You'll find them in the Browser section on your CD.

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compare the performance of our ISP to others.

2 Unbeatable package. Contact Box offers value. Apart from all the special features Contact Box offers, its 'basic' ISP service beats most other ISPs

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- Free templates to help you design your Web space
- Unlimited email accounts
- Comprehensive online support and user guides

3 Free voice to email. With Contact Box you get a free integrated voice mail and voice to email facility. This means you no longer need an answering machine. You can retrieve messages by phone or have them forwarded to your email, and you can customise your greeting.

4 Free Fax to Email. You get an integrated fax mail and fax to email facility. You can retrieve fax messages by phone, or have them forwarded to your email. This saves you having a fax, and means you have a free fax/answering machine facility.

5 Free Personal Number. You receive a free number that could cost up to £225 in the first year from British Telecom (setup and rentals).

6 Free 'follow me' facility. You'll never miss a call again. Set up your Contact Box to send calls to 'follow you' or have them diverted into your email account. All this is controlled from an easy to use Web interface.

7 The latest services. Contact Box as a system developer, has a number of plans to introduce 'cutting edge' innovations to be utilised by its customers. Make sure you have the latest and best technology.

8 Save Time & Money. Contact Box's free ISP service offers you so much more – not just local call rate access but a number of free facilities on top that will help make you more organised, will save you money buying telecom services and equipment, and help you become more efficient – collect all your messages in one Contact Box.

The Contact Box site also offers you links to search engines, directories, shopping, and information sources. Visit the site today and try a 'test drive' – on the site – and find out what Contact Box can offer you at www.contactbox.co.uk

For further information and your free CDs (also available on the site), call Contact Box on (0870) 740 4404.



your free cover CD

This month's must-have software

HTML editors

Actinic Catalog 3.0 30-day trial Publish an illustrated, online catalogue (W9x)
CatKing Pro 30-day trial Lets you quickly produce a professional Web catalogue without any special knowledge (W9x)
WebSpeed Optimizer Trial version Simulate Web load conditions without going online (W9x/NT)
Metatag Buster Create Metatag keywords and pick hexadecimal colours (W9x/NT)
Applet Button Factory Make buttons (W9x/NT)
Applet Effects Factory Create effects (W9x/NT)
Applet Headline Factory Display messages and Headlines effectively (W9x/NT)
Applet Navigation Factory Help visitors find their way around your site (W9x/NT)
Ace Expert HTML editor (W9x/NT)
Scribbler 98, JavaScript, VBScript and DHTML editor Syntax highlighting in one document (W9x/NT)
preHTML Build sites from templates/macros (W9x/NT)
CoffeeCup HTML Editor++ Latest version (W9x/NT)
Style Master v1.3 Master style sheets (W9x/NT)
Splash! 1.2 Create Web pages – no coding (W9x)
SmartScript v5 Create JavaScript items (W9x)
1st Java Navigator v5 28-day trial Manage Web-based Intranet and Internet systems (W9x)
Smart Site Trial version Map out your site (W9x)
WebScripter 30-day trial Edit in HTML and JavaScript (W9x)
Browserola See how various browsers display your site (W9x)
Button Generator Evaluation version Generate mouseover buttons (W9x)
Pretty HTML Clean up all your HTML code making it easier to read and edit (W9x/NT)
Merac ImageMap Generator Create clickable images to aid navigation (W9x)
HomeSite Evaluation version Award-winning HTML design tool for pros (W9x/NT4)
SiteExplorer Pro Display the contents and structure of your Web site offline (W9x/NT)
GoClick Update of Myrmidon Web page publisher (Mac)
Injection Improve your site's search engine rankings (Mac)
Image Mapper Make image maps (Mac)
Style Master Control Web style sheets (Mac)
VSE HTML Turbo v 21-day trial Make Web pages load faster (Mac)
Dreamweaver Trial version Professional Web development tool (Mac)
Freeway 30-day trial Web page creator (Mac)
HexWeb Typograph Demo version Create HTML documents using different fonts (Mac)
BBEdit/BBEdit Lite Classic Mac HTML editor (Mac)
HTML Editor Easy HTML editor (Mac)
MapEdit Create image maps (Mac)

Great graphics

Color Pilot 2.7/Color Pilot 3.61 Correct colours on scanned and digital camera images (W9x/W3.x)
Image Optimizer 1.11 Trial version Shrink your Web graphics to speed up access (W9x/NT)
NetGraphics Studio 2 Trial version Takes images and make them a whole lot better (W9x/NT)
Paint Shop Pro 5 One of the best graphics software packages around (W9x)
CyberView Image Compress and control your JPEG images (W9x)
Smart Pix Manager Make a database of all the images in your collection (W9x)

Panopticum Lens Pro 1 Warp your Photoshop compatible images (W9x/NT/Mac)
IrfanView View and edit your image files (W9x/NT)
Artistscope Secure Image Source Protect your graphics from thieves (W9x/NT)
ProjPEG Preparing JPEGs for the Web (W9x/Mac)
Xara 3D 3 Produce high quality 3D images that you can animate (W9x/NT)
GIF Animator 15-day trial Animate GIFs (W9x/NT4)
EyeDropper Reveals the RGB or hexadecimal value of any pixel (W9x)
DeBabelizer Lite Convert your graphics (Mac)
iView View and organise your images (Mac)
Graphic Converter Adjust/convert images (Mac)
WebPainter Vector/bitmap animation tool (Mac)
PhotoGIF Make and edit GIF files and Web graphics (Mac)

For your toolkit

NeoTrace Track your connection on the Net (W9x)
Visual Route Locate your Web host (W9x)
AnySpeed Check your site's speed (W95/NT4)
MTU-Speed Change and test packet (W95/NT4)
DNTTools Optimise dial-up networking (W9x)
Phone Monitor Monitor your time online (W9x)
Adobe Acrobat Reader Recent update (W9x/Mac)
FreeFTP Transfer your files easily (W9x/NT)
Essential NetTools Beta version Monitor and diagnose network problems (W9x/NT)

Analog Analyse Web server logs (Mac)
WebbToys Control everything about your online experience (Mac)
OT/PPP Strip Connect, disconnect and switch between dial-up connections (Mac)
Anarchie Pro New version of the drag and drop file manager (Mac)
Mac OS Runtime for Java Lets you run Java applications and applets (Mac)
Link Checker Spot dead links as soon as they appear (Mac)
TechTool Check whether your system is corrupted (Mac)
FreePPP Enhanced connection tool (Mac)
Download Deputy Set up batch downloads (Mac)
Fetch Updated version of the file retriever (Mac)

Just browsing

SpeedNet 3 Accelerate Net connections (W9x/NT)
Internet Cartographer Bookmark, search engine and browsing analysis tool (W9x/NT)
Search By Media Find images, movies and audio files (W9x/NT)
Opera 3.6 New version of the alternative browser (W9x/NT/W3x/NT3.51)
MicroSurfer Browser that downloads your cache (W9x)
Netscape Communicator Latest version (Win 9x/Mac)
WebWhacker Offline browser (W9x/NT)
Powermarks Store all your bookmarks and favourites in one interface (W9x/NT)
SpinnerPlus Music player (W9x/NT)
Browser Cache Switch v5 Browser cache for Internet Explorer (W9x/NT)
Internet Explorer 5 Latest version (Win 9x/NT4)
Internet Explorer 4.5 Upgrade (Mac)
WebZip 2.61 Download, store and view Web sites offline (W9x)
WebCelerator Enhanced Web accelerator (W9x)
Web Devil 4 Browse offline (Mac)
Subway Passport Content and channel manager (Mac)
Cookie Commander Protect yourself online (Mac)
iRemember v1.0.3 Monitors your browser history (Mac)
Sherlock Searches your Mac and the Web (Mac)
URL Manager Pro 2.5.1 Merge bookmarks and favourites (Mac)
CyberViewer 1.3.5 Analyse the time you spend online (Mac)

Email

Pegasus Mail v3.12a Free email client (Win3.x)
SpamEater Pro Beta version/SpamEater Standard Delete unwanted bulk mailings (W9x/NT4)
Ristra Mail Monitor v1.5 Monitors free email (W9x)
WebMail Alert 2000 Notifies you when you get new mail (W9x)
A-Lock Encrypt free email – such as Hotmail (W9x)
Spam Solution Protect email addresses (W9x)
Deadletter v1.5 Anti-spam plug-in for Eudora Pro or Light (W9x/NT)
Spam Bait Creator Get back at spammers (W9x)
Eudora Spell Checker Email plug-in (W9x/Win3.x)
Eudora Light Cut-down email program (Win9x/Win3.x)
Pegasus Mail Free email client (Mac)
Email Merge Create individualised mailings (Mac)
Eudora Light 3.1.3 Powerful mail program (Mac)



RamBooster Free up your RAM (W9x/NT)
WinBoost 98 Configure system settings (Win98)
Ativa DUN Meter Check bandwidth potential (W9x)
DrNet32 Detect viruses in downloads (W9x/NT)
CoffeeCup DirectFTP Manage uploading (W9x/NT)
Tardis Check your PC's clock (W9x/NT/Win3.x)
TopDog Find out how your site ranks (W9x)
WinZip SR-1/ WinZip Evaluation versions Handle your file compression (W9x/NT4/Win 3.x)
FileHound Manage downloading (W9x)
FPArchie Find a download – fast (W9x)
DirectX 6.1 Multimedia extension (Win 95)
Vbrun 6/Vbrun 5 Required Visual Basic runtime libraries for Windows (W95)
Stuffit Expander Archive unpacker (Mac)

browser

Who / why / where / when / what's hot

Licence to print money?

Protests as BBC enters free service provider market

The commercial arm of the BBC, BBC Worldwide, has launched as a free ISP, Freebeeb.net. Licence payers' money will not be used to fund the service, but controversy surrounds the way it's being promoted.

BIPA, an alliance of major British Internet publishers, has attacked the Government for failing to intervene. Its chairman, Sir Frank Rogers, said the Government has failed to recognise that the creation of a BBC Internet access service, supported by the vast marketing and branding resources of the BBC, will lead to "unacceptable distortions in the private sector and

will stifle the proper development of the UK commercial market". With over 200 free ISPs in the UK, it can't be argued that the UK needs another ISP, or that the BBC is extending choice.

There's also concern that the BBC will use its high visibility and on-air references to promote the service. In this way, the service could be said to be funded by the licence fee.

Freebeeb.net's installation CD-ROMs will also be available in Post Offices and 1,500 stores owned by newsagent T&S.

"A free BBC Internet access service will make permanent the Corporation's domination of British Internet services, and precluding once and for all a fair and rational market for both the BBC and its competitors," said Sir Frank.

For its own part, BBC Worldwide has been keen to stress that profits from the ISP will be used to support the publicly-funded BBC. This is an old argument that's regularly used when the corporation is defending the profits from its commercial operations.

This latest controversy couldn't

come at a worse time for the BBC. A Government-appointed review panel, chaired by Gavyn Davies, is examining the future of the Corporation.

And it's not the first time the BBC's online activities have been attacked. Questions have already been raised about the amount of public money being invested in BBC Online and the difference (or rather lack of it) between BBC Online and Beeb.com. The latter is paid for by online advertising.

For reasons best known to the BBC, Beeb.com produces a Web site for *Top of the Pops* and is funded by advertising, while the sites for *EastEnders* and Radio 1 come under the publicly-funded banner of BBC Online.

People were getting so confused that now, when you take a link from the BBC Online site to the Beeb.com site, a page appears which explains the difference between the two.

On the technical side, the Freebeeb.net Internet service offers new subscribers 20Mb of free Web space, POP3 mail, unlimited free email addresses and 60p per minute

for technical support. The installation CD can be ordered from the Freebeeb.net site. The established Internet partner working behind the scenes on the network connections and modems is Scottish Telecom, which also runs Demon.

www.freebeeb.net
www.beeb.com
www.bbc.co.uk



Bowie puts watermark to the test

Bowie album released online in accordance with SDMI copyright guidelines

Pop legend David Bowie is to release an album on the Net. Entitled *hours...*, the 10-track album will be available for downloading before it hits shops in the high street.

Bowie's album will be available for download in Liquid Audio and Microsoft Audio 4.0 formats, in accordance with the new Secure Digital Music Initiative (SDMI) guidelines.

It's hoped that digital watermarking will ensure that Bowie's album can only be

played on the computer of the person who originally downloaded it. The music industry will be watching the launch with interest to see how well the technology protects Bowie's copyright.

In May, legendary US rap act Public Enemy used the Internet to release their album *There's A Poison Going On*, months before its official release. Underworld have also decided to release their latest album - *Beaucoup Fish* - in a similar way.

www.davidbowie.com



:-) Message will self-destruct

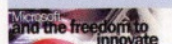
Fans of *Mission Impossible*, and those paranoid about security, will love a new program that can send email messages which self-destruct after a set time. Global Markets Research (GMR) designed 10n1 email "to guarantee complete confidentiality". It uses 2,048-bit public key encryption to secure the message in transit. The company is offering \$50,000 to anyone who can hack into a message within three months.

www.internet-magazine.com

Time line

October

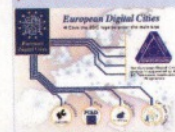
It might not mean much to you, but Toshiba has sent out the first samples of its TC9446F digital signal processor chip, expected to sell for \$17 (around £11). But it could change your life, because it's a fast and cheap way to decode MP3 files for laptops, portables and other devices. Cool stuff. www.toshiba.co.uk



1 October

Happy Anniversary! The court case brought against Microsoft by the US Department of Justice began a year ago, and it's done more damage to Microsoft's public image than anyone could have imagined. Whether the court finally decides to split the company, make Windows 'Open Source' or just let Gates & Co carry on as before, nothing will ever be the same again back home at Redmond.

www.microsoft.com/freedomtoinnovate/default.htm



4-6 October

The European Digital Cities initiative has spent millions of Euros over the past four years. They have regular conferences, so head off to Bari, in Southern Italy, to find out all about Telematics Opportunities for European Peripheral Areas. Well, at least it'll be sunny.

www.edc.eu.int/events/bario31099.html

More 'free' ISP shares up for grabs

The latest clutch of Net share giveaways could make you a packet

Free ISPs are offering shares to entice users to sign up. Totalise and Blue Carrots are among a growing list of Net companies joining TheMutual.net in using this tactic.

So why are they doing it? The battle for subscribers in the free ISP market is becoming increasingly competitive, and new ISPs have realised that they need to differentiate themselves from their rivals. One way to attract precious subscribers is for ISPs to offer shares in their companies. It has the added benefit of making people use the ISP more frequently and keeps a low churn rate (turnover of users).

The latest company to make this type of offer is Blue Carrots. It's giving away between 500 and 10,000 free 'units' in the company to each subscriber, depending on when they join. The company is careful to refer to them as units, because Blue Carrots hasn't floated yet. MD David Dobson couldn't tell us when the company would float, or even on which market.

To set up the service, new subscribers need to phone a premium rate number that'll cost a maximum of £3.50. After that, calls to the ISP are charged at local rates. To encourage loyalty, users will only be allowed to keep their units if they spend more than 200 minutes online each month. Members can obtain more units by recommending the service to others.

It's hoped that 80 per cent of the company will be given away in shares.



● Totalise is one of the few ISPs dishing out shares that are actually worth anything.

The service uses Cable & Wireless as its backbone.

If you're seeking shares that are worth something, Yorkshire-based Totalise could be a better bet. Users get 50 shares for registering and

200 for using the service for just 100 minutes per month. The shares are being traded on OFEX and, as we went to press, were worth 28p each. A company spokesman said that at least 300 users had already sold their shares, collecting an average of £75 each. Two-thirds of the company will eventually be given away. The Totalise service has Telinco as its backbone.

As we reported in August, the first ISP to offer units was TheMutual.net. The units are worthless until the company floats. Its first 10,000 subscribers will be allocated 10,000 units each. The next 500,000 get 1,000 units, and the following one million customers will get 500 units each until they're all allocated. Half of the company will be given away in shares, and the service uses Telinco as its backbone.

Could one of these companies be the next Freeserve? Or is it all a con? The jury's out. But it's worrying that a large number of these ISPs are vague about that crucial issue of when, or even if, they'll ever float.

www.bluecarrots.com
www.totalise.net
www.themutual.net

Soccernet wins transfer to Disney

Football site goes global with the backing of that famous mouse

Soccernet, the UK-based Web site owned by The Daily Mail, has teamed up with Disney in an attempt to establish itself as the world's top football site.

The site will be relaunched as part of ESPN.com in the US, which is owned by the Walt Disney Company. The move reflects the growing popularity of soccer (or football, as us Brits prefer to call it) around the globe. The deal aims to give Soccernet a leading place in the world's Web site rankings in time for the World Cup in 2002.

Soccernet was founded by the 12 year old son of a Daily Mail journalist and was bought by the group three years ago. www.soccernet.com



● Soccernet to be Mickey Mouse operation

IN BRIEF

■ Wcities.com has launched the first phase of what it claims to be the world's first 'globally local' news, information and community site. Written entirely by locals, the site covers a wide range of topics relevant to a particular city. London, Birmingham, Bristol and Manchester are among the first UK sections to be opened. www.wcities.com



■ Successful US online toy store eToys is to launch a dedicated UK site in time for Christmas. The company has already begun stocking its warehouse in Swindon. In the US, eToys has a reputation for its wide range of products, and it sees the UK as the gateway to Europe. www.etoys.co.uk

■ Insurance firm Direct Line has launched a Web site that promises to deliver online insurance in under two minutes. Customers can get a quote and then buy home, motor and car insurance over the Web. The company believes that at least 15 per cent of motor insurance will be bought over the Net by 2003. www.directline.com

■ Freenetname is offering its subscribers free.co.uk domain names. The catch is that users must host their Web site on the company's servers – and it registers the name, not the users. You'll have to use the Freenetname ISP to maintain your Web space and email. The good news is that technical support for the ISP is completely free. www.freenetname.co.uk

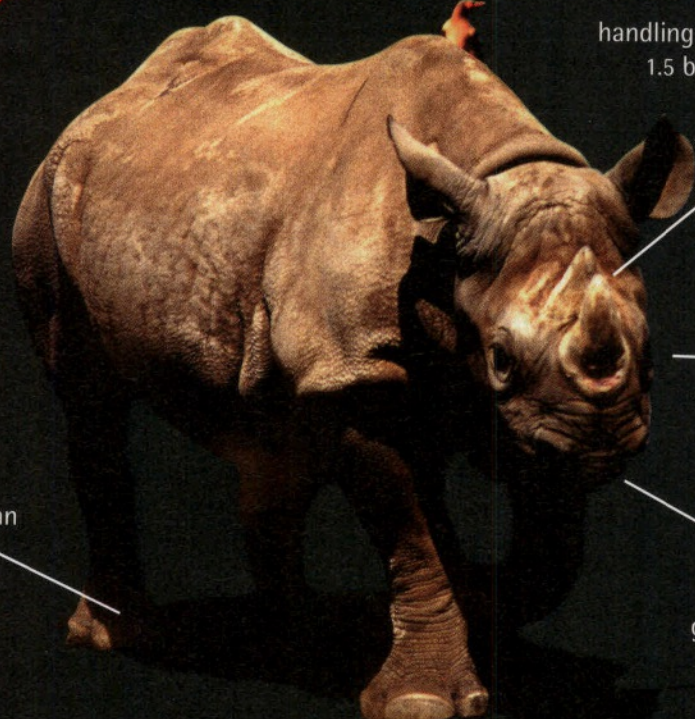
■ The Scottish Executive has tightened the security of its Web site after warnings that it was at risk of hacking. The alert was raised by hacker group DNScon, which said hackers could change details on the site. This information could then be used to destabilise the economy. The Scottish Parliament says it's now improved its security. www.dnscon.org

■ Nearly six per cent of Internet users are driven by some kind of addiction, according to a study from the American Psychological Association. The news comes at a time when the European Union (<http://europa.eu.int>) is considering draft guidelines which will let Internet addicts receive clinical treatment in the same way as alcoholics.

■ Boo.com, the online clothes store billed as one of the hottest e-commerce sites on the Web, has had its launch delayed because of technical problems. Boo is valued at £81 million and has attracted investment from a number of European businesses, including Benetton. It had already started an advertising campaign when difficulties emerged with integrating the software systems. www.boo.com



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Time
line

5 October



Although all the fuss has been about .com and .net, the administration of country-specific domains is also a big problem for the Domain Name Service. Should national governments be in charge of their own domains, or is it a Net issue that's best left to the experts? The consultation period on what to do with .us ends today, and could provide a model for other nations. See www.ntia.doc.gov/ntiahome/domainname/usrfc/dotusrfc.htm

5 October

techies' day

It's National Techies Day in the US – a day to celebrate the achievements of technology professionals and make people feel good about understanding TCP/IP. Give your favourite techie a hug! www.techiesday.com

Head baker quits Currant Bun

Ellis Watson leaves The Sun's ISP in mysterious circumstances

Ellis Watson has quit suddenly as general manager of Currant Bun, the free ISP from *The Sun*. It's unclear whether the self-proclaimed 'Head Baker' was pushed or whether he went voluntarily.

Watson spent nearly a decade working for *The Sun* and is renowned for his incredible dedication to his work for the newspaper. In an interview published in the August issue of *Internet Magazine* he said, "*The Sun* is the paper I would have lived and died for."

There are a number of possible reasons for his departure. Rumours have circulated that Watson was unhappy with the July appointment of Alasdair MacLeod as managing director of News International Digital Publishing. MacLeod is Rupert Murdoch's son-in-law.

But perhaps of greatest significance is the appointment of Andy Coulson, former associate editor of *The Sun*, as editorial director. Coulson is best known for his daily attacks on the Spice Girls in his showbiz column. Despite this, or perhaps because of it, he's a highly-regarded Fleet Street figure.

"Andy Coulson is a bloody clever guy who's good at producing content that appeals to 10 million people daily," said marketing director Barni Evans. "There's no question that Coulson is replacing Ellis Watson. Ellis was a

larger than life character who put a lot of his own personality into the Currant Bun. That's reflected in the fact that he hasn't been replaced yet."

There's also the more serious issue of Currant Bun's performance in the market. Watson came up with the concept of Currant Bun in January. The service went live in March, with Watson telling journalists that it would bring a dramatic end to Freeserve's run of success. But despite high demand in the first weeks of launch, it struggled in the face of fierce competition from rival ISPs, including Virgin Net, BT ClickFree, AOL and CompuServe.

During the summer, distribution deals were set up to boost subscriptions. Supermarket giant Asda, and electrical retailer Comet, were brought in. The ISP was also promoted heavily in *The Sun*, and the company forked out on an extensive TV advertising campaign.

But despite this massive promotion,

Currant Bun only

has around

300,000 users.

Freeserve, in

contrast, has

over a

million.

News

International seems

undecided about allowing free

access to the Currant Bun portal

site – it can only be seen by

subscribers at present.

Ellis Watson would have

had a view, but he's gone

now, and is rumoured to be

starting an e-commerce venture.

www.currantbun.com



Cable & Wireless and NTL are first with interactive digital TV service

Cable & Wireless has introduced the UK's first interactive digital TV service. Homes in Manchester can now get digital TV, email and some Internet-based interactive sites.

The service costs £9.98 per month, including phone line rental, basic digital channels, 100 minutes of free local calls, and a set top box containing a cable modem.

London homes with C&W connections should get the service this month. Other parts of the country will benefit in early 2000.

NTL's digital service will appear in the last quarter of this year in Glasgow, Surrey, Luton and Ireland. NTL took over the cable operations of C&W two months ago.

www.cwc.com
www.ntl.co.uk

:-) www.rich-git.com

A US businessman has paid nearly a million dollars for the drugs.com domain name. "It's definitely a lot of money," said the proud new owner, stating the obvious. He aims to set up a pharmacy-style portal site. The auction took place at www.greatdomains.com. There are several names still available on the site, including the rather dubious www.boys4sex.com and www.ass-slapping.com

BOOKMARKS OF THE RICH AND FAMOUS

It's Radio 1's Top 40 disc jockey...

Mark Goodier

DJ Mark Goodier, 48, is best known for the excitable way that he counts down the Official Top 40 Chart on Sunday afternoons.



How do you use the Net?

I use it for research and to keep up to date with what music is available to download, but the day is rapidly approaching when my seven year old daughter and five year old son will be booting me off and using it themselves.

What's the worst thing about it?

The slowness at peak times and the fact that the Net is also getting cluttered with irrelevant Web sites. Selective browsing is what I recommend.

Would you like to present a show exclusively on the Net?

Why not? Its potential audience could be huge and it would be a great way to promote music around the world. People could listen to the show and browse the Net at the same time. I do that already.

SO WHAT ARE YOUR FAVOURITE WEB SITES?

Online Posters

www.onlineposters.co.uk

This is a new site where users can purchase over 8,000 prints of all styles of artwork. It has a search facility to pinpoint exhibitions by location, date and artist.



BBC Online

www.bbc.co.uk

The Web site of the Beeb offers a huge range of information under one site.

Sony

www.sony.com

It keeps me abreast of gadgets, music, movies and TV, with the option to play games online.



Abalone

www.abaloneonline.com

Abalone is a new board game from France, but there's an English version of the site

as well. Browsers can play against each other while having a virtual chat. I think it's very cool.

Want to know more about Mark Goodier and Radio 1? See www.bbc.co.uk/radio1

Essential Viewing

The Web is huge and phone calls are expensive.
So save time and money and only visit this month's essential sites



GAMES

IT'S COOL FOR RATS

London-based Pure Entertainment claims to be the first video game developer to launch an online cartoon series that ties in with an upcoming game release. The Scratch Cats characters star in Sony's *Rat Attack* (www.sony.com). They're an eight-strong elite feline gang out to rid the world of mutant rats. The site and the animations cover the characters' backgrounds, and the Shockwave Flash cartoon series adds a new episode every four weeks. There's something endearing about the Scratch Cats, and with licensing agreements for comics, toys and TV shows in the pipeline, expect to see a lot more of them.

www.playstation-europe.com/scratchcats



MUSIC

Space cowboys everywhere will have been dancing with joy at the release of Jamiroquai's new album, *Synkronized*. But the well-known fan of comedy headgear has also launched a new Web site to coincide with the release of his latest CD on music shop shelves. Whether you like Denise van Outen's main squeeze or not, this site's worth a visit.

www.jamiroquai.co.uk

Web design firm, Slink, has launched a new site for dance music direct from the UK's leading distributors. The site is ram jam packed full of Real Audio clips and reviews, and there's even an online shop.

www.tunes.co.uk

Music site Aloud.com (www.aloud.com) has teamed up with Bargain Holidays (www.bargainholidays.com), Kiss FM (www.kiss100.com) and



Mixmag to produce the ultimate clubbing guide to Ibiza. Club Fever does a fine line in information for the hedonistic fun seeker, with sun, sand and Balearic beats mixed to good effect.

www.aloud.com/clubfever

SHOPPING

WStore claims to be the first online IT-only reseller in the UK. There are bargains to be had – a Hewlett Packard Vectra Vli with 64 Mb of RAM was going for £882. And there are other deals on software, printers and

peripherals. If you're panicking about Y2K problems and want to upgrade before the Millennium, you might want to drop in.

www.wstore.co.uk

Over at GarnNet – The Real Internet

Yarn Shop – things are less hardwired. If you're into knitting, you can order specialist yarns, buy needles, and even use a Web tool to design the ultimate jumper for Giles Brandreth or Noel Edmonds. You can then order your pattern for \$7 (around £4.50).

www.garnnet.com

If neither of those shops get you reaching for the secure server, try SafeStreet, the newest online shopping mall. You can shop for everything from fashion and food to kids'

stuff, audio visual products and sporting equipment. Given the number of shops signing up, this could be the first mall to succeed.

www.safestreet.co.uk

TV

If you can't do without your fix of 'Brookie' (www.channel4.com), you'll be relieved to see the second generation *Brookside* Web site up and running. You can catch up on missed episodes, watch clips, get the history of the Close and relive the classic moments – such as the burial under the patio, the religious nutters and the female stalker.

www.brookside.com



CAREERS

FANCY YOURSELF AS A HIGH FLYER?

As with all the armed services, the RAF has decided it needs a new-look Web site to attract young men and women to its ranks. Designed as a virtual airbase, the site has a lot of information on the different career paths available in the modern air force, all displayed using Flash – although a duller HTML version is optional. Everything is geared to seeing if you have the right stuff. Even the games have been designed to reflect the dexterity, speed and accuracy you need to fly a multi-million pound attack aircraft.

www.raf-careers.raf.mod.uk



OVERHEARD → "The Web is changing rapidly, but the one thing that hasn't changed is there's still only 24 hours in a day." Media Matrix states the obvious

TECHUPDATE

ALL THE LATEST INTERNET TECHNOLOGY NEWS

■ A free fax to email service is available from Nildram. Users are issued with an 0870 national call rate number which becomes their personal fax number. Faxes sent to this number are converted to picture format emails and sent to the user's mailbox.

www.faxme.co.uk

■ Freeserve (www.freeserve.net) plans to introduce audio access to emails. Freeserve members will be able to phone their mailboxes and using simple speech commands have their emails read out to them. They'll also be able to dictate and send a reply. The system will use Vocalis SpeechMail.

www.vocalis.com

■ For ONdigital subscribers the next step in convergence technology is TV access to email. Using the modems built into set-top boxes, ONdigital will offer interactive services

including Pay Per View and e-commerce. ISP Demon is behind the Internet end of the arrangement.

www.ondigital.co.uk

■ MP3 players continue to get more sophisticated. Samsung has gone all the way and combined its player with a mobile phone. It measures 105x45x20mm and weighs less than 100g. The MP3 memory capacity is 16Mb, with 32Mb



● MP3 player and phone in one. Hello? Hello? Is that Madonna?

planned. Owners can play music or record calls as MP3s.

www.samsungelectronics

■ New ISP Totalserve offers PC access to the Internet without registration or software. Simply create a connection in Dial Up Networking using the phone number (0845) 050 0095. Type in Totalserve as both the username and password. Your account is ready to connect.

www.totalserve.net

■ Microsoft and Telewest have announced an alliance. As a first step, a Telewest-MSN portal will be created this year, bringing MSN content to Telewest customers. As Telewest rolls out its cable modem service early next year, the portal will evolve into a broadband service.

www.telewest.co.uk



● What future for email on your mobile phone?

■ UK company, Dialogue Communications has demonstrated transmission of an email to a mobile phone using WAP (Wireless Access Protocol) technology. The transmission was a world first.

www.dialogue.co.uk

■ WAP is supported by Ericsson, Nokia and Motorola. It's seen by some as the ultimate protocol for transferring emails and suitable Web pages to mobile phones and handhelds. But a new report by International Data Corporation raises questions about it being held back by the popularity of Short Messaging Services and the introduction of General Packet Radio Services – which offer more bandwidth.

www.idc.com



● For more on WAP, visit www.wapforum.com

FORGET THE FERRY, GET DUTY FREE DIRECT

With the abolition of duty free a few months ago, many will have felt the pinch on their summer holidays. But help is at hand from the Channel Islands, where duty free was never an issue, because the whole four-island setup is duty free anyway. You can't get cheap beer and tabs yet, but the site runs a nice little line in smellies, ranging from Hugo Boss and Opium to Safari and Armani, for him and her. The site also has designer sunglasses, cosmetics and even CDs.

www.dutyfree.co.je

If you prefer grope to soap, Pearson Television (www.pearsonstv.com) has just launched an official Benny Hill Web site. Watch clips of the slap and tickle slapstick expert, chat about him and his humour, or discover the history of the man behind the myth.

www.bennyhill.com



FOOD

Little Chef has launched its new Web site to help customers find its 435 restaurants. Just click on the map and you're transported to the nearest café. Or check out the menu before your A-road stopover. No fancy stuff here, but straight info.

www.little-chef.co.uk

If you want something a bit spicier, try Bristol Sweet Mart. This online shop specialises in spices and ethnic foods.



There are lentils, dahls and pulses galore, and a rainbow of spices sauces and pickles.

www.sweetmart.co.uk

EVENTS

Started planning your Millennium party yet? No, us neither. But help is at hand in the form of ThePlunge.com. Loaded with smart tools that take all of the work and hassle out of organising an event, ThePlunge.com applies the thinking behind all those wedding organiser sites to the biggest party of the... well...

Millennium, really. www.theplunge.com

AND FINALLY...

With November the fifth coming up, why not plan ahead and

order some fireworks to make your celebrations go with a bang? Both the UK industry leader, Standard (

.standardfireworks.com) and Black Cat (www.blackcatfireworks.com) have Web sites that let you browse through rockets, Catherine wheels, firecrackers and sparklers. Black Cat is the better of two sites, with video

footage of what the fireworks will look like in action at your own bonfire night show. Meanwhile, explosives consultants, Saxton Smith ([.fireworksafety.co.uk\) is the best site for safety tips and the firework code.](http://www)</p></div><div data-bbox=)



Have you clicked yet?



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With a 'Free' Internet Service Provider you are charged for every single Internet call you make.

Which means, should you have the inclination to spend all weekend on-line, every weekend for a month, it will cost you up to £115.20.*

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*Based on weekend standard BT local call rate of 1p per minute, midnight Friday to midnight Sunday. **Monthly subscription required to qualify for free call time.

Time
line

9 October



The charity rock concert is dragged into the information age today when NetAid takes over the Net for a live Webcast (see main story, right). The aim is to raise money to end world poverty, and the site is promoting social action, so pop along for a visit.

www.netaid.org

Mid-October

If all goes as planned, Microsoft will be adding to its ownership of bandwidth as the sale of Deutsche Telekom's cable division goes through. Likely winner in the competition for



Dual broadcast for NetAid

Web site must use interactive features to compete with TV coverage

Cisco Systems and the United Nations Development Program (UNDP) have joined forces to raise money to end worldwide poverty. Two charity pop concerts, one in New York and another from Wembley Stadium, will be broadcast live over the Internet.

Known as NetAid, the event will feature top acts including The Corrs, Robbie Williams and David Bowie.

Mark Desvaux, head of business at UUNET, explained that the success of NetAid will depend on the amount of bandwidth it's allocated, the quality of the servers and the compression abilities of the broadcast software used.

UUNET broadcast a Robbie Williams concert on its site in August.

The NetAid event will also be broadcast on the BBC and cable stations, including MTV and VH1, so the Internet will have to work hard at winning an audience.

"When you have a choice of TV or the Internet, everyone will definitely watch it on TV," said Desvaux. "To make a Net broadcast successful they'll have to add extra value.

With the Robbie Williams gig we offered viewers the chance to choose different camera angles and the ability to flick between them."

Cisco Systems says it's prepared for the huge demand. The NetAid Web site will have a capacity of one million hits per

minute. The company says this is 10 times the power of the official France 98 World Cup site. It will also be able to cope with 125,000 live simultaneous Web cast streams.

"We have servers deployed in 15 countries around the world," said a Cisco Systems spokesman. "Our load balancing technology means we can discover where users are coming from. We will then make sure they have access to servers, not so much as the crow flies, but as the Internet moves."

Ironically, many of the people that NetAid hopes to help will not be able to see the event at all either on TV or on the Net. But computers and the Internet will be able to offer real benefits to the developing world once problems of availability and access are overcome.

"The countries of Africa comprise more than nine per cent of the world's population, yet there's less than 0.1 per cent of Net connectivity," said a UN spokesman. "But we're seeing a revolution before our very eyes. In Mali, West Africa, farmers have access to

computers which they can use to look up coffee prices. This is directly affecting the prices that they charge when they sell their coffee to middle men."

The concerts take place on 9 October.

www.netaid.org
www.uk.uu.net



Yahoo! vows to stay single

Yahoo!, the huge Internet search directory, has said it's unlikely to merge with any larger media or telecoms companies. In an interview in *The New York Times*, Timothy Koogle, CEO, said that, in its early cash-starved days, Yahoo! turned down offers from "eager suitors" who were "willing to pay for the right to be the exclusive provider of one thing or another".

He said that, in recent months, Yahoo! had turned down offers from large US media and broadcasting companies.

"I'm a big fan of the long term and a big fan of discipline," Koogle explained. "If you're short term in your thinking, people will wave cheques at you and you'll take them. We've seen our competition do that." He said that Yahoo! users value the portal because it's a trusted, independent and comprehensive source of information.

The portal market is rapidly consolidating. In the US, Excite was bought by At Home, which is largely owned by AT&T, the telecom giant. BT owns a large chunk of Excite in the UK.

In May, Lycos agreed to a complex marriage with the owner of a large cable TV network. Lycos was forced to cancel after investors complained.

www.yahoo.co.uk

YAHOO!
UK & IRELAND

● Yahoo! will stay young, free and single

www.internet-magazine.com



It's all a
bit fishy

You can witness e-commerce in action at the site of Flying Fish (www.ffexpress.com). Here you can buy fish – not to eat, but to put in your fish tank.

Code	Common name	Scientific Name	Size	Stock	Price
10100	Shiner	Centropomus viridis	10/15	10/15	10/15
10101	Shiner	Centropomus viridis	10/15	10/15	10/15
10102	Shiner	Centropomus viridis	10/15	10/15	10/15
10103	Shiner	Centropomus viridis	10/15	10/15	10/15
10104	Shiner	Centropomus viridis	10/15	10/15	10/15
10105	Shiner	Centropomus viridis	10/15	10/15	10/15
10106	Shiner	Centropomus viridis	10/15	10/15	10/15
10107	Shiner	Centropomus viridis	10/15	10/15	10/15
10108	Shiner	Centropomus viridis	10/15	10/15	10/15
10109	Shiner	Centropomus viridis	10/15	10/15	10/15
10110	Shiner	Centropomus viridis	10/15	10/15	10/15

Blue-spotted stingray are available for \$52 or how about a Dragon Eel for \$400? If you're worried about spending your hard-earned cash on a fish that you've never seen, the site offers a five-day "Arrive Alive, Stay Alive" guarantee. Just return the dead fish for replacement.

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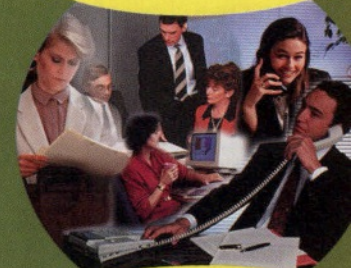
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Hotmail hacked

Hotmail, the Web-based email service from MSN, has been recovering after a security breach. Despite Microsoft's claim to have resolved the issue, security experts say it's still vulnerable.

The Web-based email service has been subject to plenty of hacks in the past, but this latest has certainly been the most devastating. The group that's claimed responsibility, known by the rather unlikely name of Hackers Unite, had the potential to get into any of the 40 million member accounts, 1.8 million of which are owned by UK users.

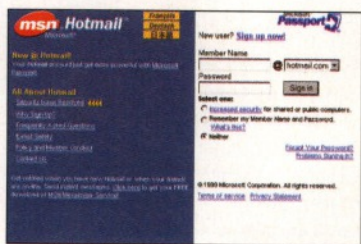
So why has Hotmail been singled out for such attacks? For starters, it's easily the most high-profile Web-based email service – it has the most members and is owned by Microsoft. Many people regard hacking into Microsoft systems as the ultimate challenge. Internet Explorer 5 and the Windows operating system are also subject to frequent attacks.

More seriously, there's evidence that Hotmail is easier to hack into than other Web-based email services.

Most Web-based services, such as Yahoo! Mail, only let users access their email accounts from a specific site. But Hotmail allows, and even encourages, access from any Web page. A simple login form, made up of simple HTML and JavaScript, can be downloaded and inserted into a Web page. This will appear

as a box for a username and password. Potentially, the owner of the Web site could bug it to grab a user's password.

In the case of the latest security breach, the Hotmail login ID storage program appeared in a modified form on Web pages in England and Sweden. This version let users access any account they wanted without a password. This exploited a security weakness that had somehow appeared when Hotmail upgraded its servers.



● The Hotmail service has been the subject of numerous hacks

Login programs typically call up a URL that launches a login process on an email server. But if Hotmail made amendments on its servers, the changes

might not be updated on the various non-specific sites. Users are then simply unable to access their accounts from these pages, but security holes can still occur.

Finally, security experts claim Hotmail doesn't always check the usernames and passwords of its 40 million users every time they log in. Users who access their accounts on shared computers, such as those in libraries, have said it's possible for the next person who uses the computer to access their account.

Microsoft recommends all users follow the full logout process after use.

www.hotmail.com

Time line

the German network is a consortium lead by Deutsche Bank, which includes Microsoft – adding to the stakes it already holds in Brazil, the US and, of course, the UK (alongside NTL).

Late October



The security problems of a single dial-up Net connection are bad enough, but if you've got a cable modem or ADSL linking your home network to the Internet, you could be a major target for hackers. Remember, there's no firewall between you and the wider network. So get your order in for Norton Security 2000, which has just been released from Symantec. It includes anti-virus software and a 'personal firewall'. You know it makes sense!

www.symantec.com

Top sites are even stickier

Strong sites are getting stronger – taking up more of visitors' viewing time. Research by MediaMetrix, published by the *LA Times*, shows that Internet users spend 20 per cent of their time on the top 10 sites, compared to 16 per cent a year ago. A similar picture emerges for the top 50 and top 100 sites.

The trend is seen as part of the Net's increasing maturity, with visitors recognising the sites that meet their needs and sticking with them.

But there's good news for lesser sites, too. MediaMetrix also says the number of pages viewed by each user has gone up, from 330 unique pages per visitor in July 1998 to 487 per visitor in July 1999. So although sites outside the top 100 are getting a slightly smaller slice of the cake, the cake is a lot bigger.

Users also spent more time on the Web than they did last year, an average of 7.9 hours per month compared to 5.8 – an increase of 36 per cent. These figures were produced using a US sample population.

Here are the figures for the top 10 sites in July. The numbers show the total visitors who visited the site – repeat visits by the same visitor are not counted.

1	yahoo.com	32.9 million
2	aol.com	30 million
3	msn.com	27 million
4	geocities.com	23 million
5	netscape.com	19 million
6	go.com	19 million
7	microsoft.com	17 million
8	lycos.com	15 million
9	excite.com	15 million
10	angelfire.com	13 million

Data: MediaMetrix
(www.mediametrix.com)

Uh-oh! More Teletubby trouble

Beeb hits out at 'adult' Web site

A US Web site set up to parody the children's TV programme *The Teletubbies* has gone back online despite legal threats from the BBC. The site, which is aimed at an 'adult' audience features drawings of the *Teletubbies* in unusual positions.

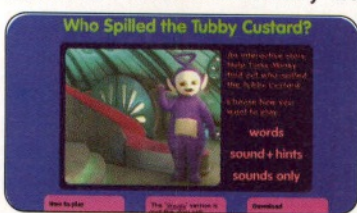
BBC Worldwide, the commercial arm of the BBC, insisted that Tom Fulp, webmaster of the site, remove material or face legal action. Susan Davey, brand protection manager at BBC Worldwide, said in a letter: "We consider it wholly inappropriate that a Web site of this nature should be on the Internet... Should you fail to comply with these requirements, I will be recommending to Ragdoll (the *Teletubbies* production company) that we consider taking legal action against you for your infringement of our intellectual property rights."

Daniel Lloyd of the UK-based Campaign for Internet Freedom group commented: "The attempt by the BBC to frighten Mr Fulp into removing his Web site is scandalous behaviour for an institution with a vested interest in protecting free speech." Lloyd added that "even a moron in a hurry" would be able to recognise that it was a parody.

Under US law, Fulp might be in the clear. The First Amendment offers protection under 'fair use of parody'.

The Campaign for Internet Freedom says that copyright laws are increasingly used as an excuse to place restrictions on material that people find objectionable on the Internet.

www.netfreedom.org



● The one, but not only, Teletubbies site

In the first issue

First cyber café opens for business

The first Internet terminal equipped café has at last opened in London after several false starts.

Named Cyberia, the café is located at 39 Whitfield Street rather than in the more trendy Soho area of the city. Interestingly, Cyberia will be the focus of a new UK point of presence, Easynet.

Founders Keith Teare and David Rowe have taken the name Cybercafé Ltd for the company which will operate the establishment. This has aggravated Heath Bunting, who is rushing to establish an eatery named Cybercafé in Soho's Bateman Street. Bunting has complained that "these people are government agents".

Like cyber cafés in other countries, Cyberia will have at least six terminals providing access to the Internet. The intention is to utilise Pentium-based PCs and Mosaic front-end software.

5 today

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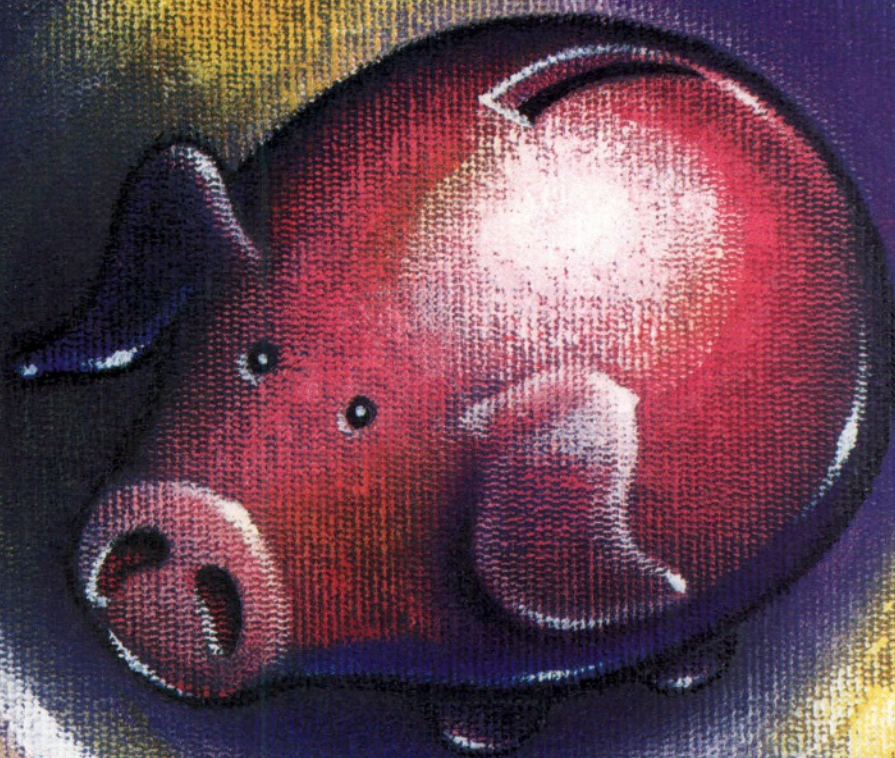
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Hot Downloads

**ON
THE
CD**

After trawling sites all over the world, **Greg Sloman** brings you the products worth downloading. Plus the top 10 sites to visit for JavaScript resources

HOTLIST

Top 10 JavaScript resources



Netscape DevEdge

<http://developer.netscape.com/tech/javascript/index.html>
Bursting with JavaScript information and resources, FAQs, sample code, TechNotes, tools, articles and links.

Ask The JavaScript Pro

www.inquiry.com/techtips/js_pro

Get answers to your Web development questions. This FAQ-based site has a 10-minute solutions section, sample scripts, a weekly magazine and a download library.

Website Abstraction

www.wsabstract.com

This site features cut and paste scripts, tutorials, online tools, a help forum and weekly updates.

WebMonkey

www.hotwired.com/webmonkey/javascript

Scripts with working examples and instructions. Learn all about JavaScript, or just swipe some code for your site.

Developer.com

www.developer.com/directories/pages/dir.javascript.html

Developer.com features links to thousands of expert scripts, discussions and reference materials.

WebDeveloper.com

www.webdeveloper.com/javascript

Learn how to add JavaScript to your pages. Tutorials, tips and tricks, and lots of code snippets await you here.

WebCoder.com

http://webcoder.com/index_real.html

Learn the best techniques for making successful scripts. There's a well-presented scriptorium as well as reference and how-to sections.

Doc JavaScript

<http://webreference.com/js>

Based on a bi-weekly how-to column that contains practical scripts and solutions designed to improve your site.

JavaScript for the Total Non-Programmer

www.webteacher.com/javatour

Takes you through the fundamentals of JavaScript. Learn how to write functions, conditionals, program loops, and generally make your Web pages 'smarter'.

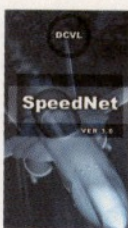
Cut and Paste JavaScript

www.infohiway.com/javascript/indexf.htm

This site has tons of scripts which you can simply paste into your HTML, as well as a lively help forum.

SpeedNet

SpeedNet claims to increase your Net connection speed by up to 300 per cent. The simple interface sets it up for your operating system and modem, cable modem or ISDN. It then changes the



maximum speed at which you can transfer packets on the Internet. Sadly,

SpeedNet doesn't work with non-Microsoft dial-up networking connections.

Price \$22 (around £14)

Platforms *Win9x/NT*

Download size 2.12Mb

<http://brock.lwz.com/soft.htm>

Subway Passport

A Net content manager for Macs. Based on the Windows 95 idea of channels, it splits into the Mac Station (a Net software and hardware resource), the Culture Station (with links to music, radio and movie news), and lots more, including the Tech Station. There's plenty of quality content here, if you don't mind the US bias.

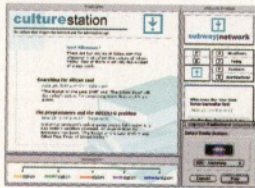
Subway Passport integrates slickly with your browser, and even has a built-in streaming audio player.

Price \$39 (around £25)

Platforms *Mac*

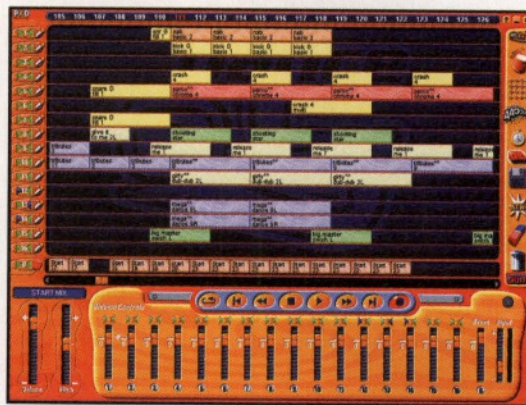
Download size 2.4Mb

www.subwaynetwork.com



Scribbler 200

This JavaScript and VBScript editor makes creating Dynamic HTML a breeze.



Scribbler 200 is designed for beginners and advanced programmers, and has an intuitive interface for creating and testing DHTML, JavaScript and VBScript. All standard scripting elements are listed – you just drag and drop them into your code.

Price \$35 (around £23)

Platforms *Win9x/NT*

Download size 1.43Mb

www.creamsoft.com

[/scribbler](http://scribbler)

Dance eJay 2

Make your own dance mixes with Dance eJay. Using its 16-track sequencer, you drop samples and loops onto a timeline. You can import WAV files (there are millions on the Net) or record your own rapping straight onto any track. There's a groove generator that lets you mix and match your own drum loops and an effects studio for changing



PAINT SHOP PRO 6

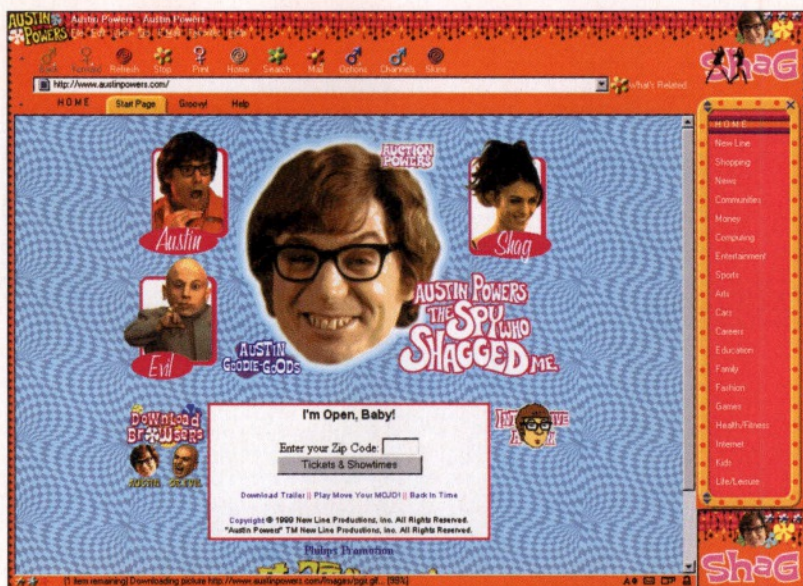
From humble shareware beginnings, Paint Shop Pro has finally come of age as a one-stop program for creating graphics and enhancing digital images for the Web. This new version has adjustment layers, vector tools and plug-in filter support. It'll now deal with CMYK separations, pressure-sensitive tablets, digital cameras and scanners. The improved interface has roll-up palettes and editable text. You also get a new version of Animation Shop and a picture browser. Paint Shop now looks and feels like a Pro.

Price \$99 (around £64)

Platforms *Win9x/NT*

Download size 6.8Mb

www.jasc.com



NEOPLANET AUSTIN POWERS BROWSER

The NeoPlanet Austin Powers skin (or interface) will transform your browsing into a shagadelic experience. Inspired by the latest Austin Powers movie, *The Spy Who Shagged Me*, this '60s-themed skin comes complete with sound effects from the movie. NeoPlanet is a freeware browser based on IE4 that lets you add replaceable skins. This download includes the complete NeoPlanet browser with the Austin Powers skin preinstalled. Fans of the film will love this, baby. Requires Internet Explorer 3.02 or later.

Price Free

Platforms Win9x

Download size 1.70Mb

www.neoplanet.com

pitch and adding resonance, distortion and echo. Your final mix can then be exported as a WAV file. Dance eJay ships with 1,300 samples and there are loads more to buy online.

Price £79

Platforms Win9x

Download size 10.1Mb

www.ejay.com



HyCD

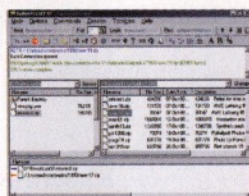
HyCD is an MP3, sound editing and audio CD burning program. It lets you mix and record music from your CDs, copy tracks onto your hard disk and duplicate them. You can filter the noise, add special effects, then record to CD. It'll play MP3s, WAVs and audio CDs. HyCD integrates with Windows Explorer.

Price \$59.95 (around £39)

Platforms Win9x

Download size 8.58Mb

www.hyed.com



BulletProof FTP

A cheap, compact, robust and fully featured FTP utility with everything you'd expect in an FTP client, plus a few extras. For instance, it can automatically reconnect and resume failed downloads and uploads. You also get offline browsing and search facilities. Copy an FTP or http URL into your clipboard, and it'll connect to the site in the background and start transferring. Neat.

Price \$30 (around £19.50)

Platforms Win9x/NT

Download size 523k

www.bpftp.com

Injection

Injection gets better search engine rankings for your Web site. Drag and drop your entire site onto Injection and it extracts key words and topics from each page, and constructs

META keyword tags to reflect the content. These META tags are then 'injected' into each page. A real time-saver.

Price \$34.95 (around £23)

Platforms Mac

Download size 1.45Mb

www.glu.com

Jet Audio

Jet Audio deals with almost every multimedia experience you're likely to encounter on the Net. It has players for audio CDs, MIDI files and video formats. You also get a remote control, a graphic equaliser and 3D sound effects. Converting CD tracks, cassettes or voice recordings into MP3 files is a breeze. Now that's entertainment.

Price \$39 (around £25)

Platforms Win9x/NT

Download size 7.34Mb

www.cowon.com



SMILEY GUIDE TO INTERNET USERS

NETSCAPEONLINE

AGE: Early to mid-20s. Male, young, free and single.

APPEARANCE: Smart casual. Shirt tails out, square-toed shoes with buckles, short haircut with a spikey bit at the front. Sunburnt after his 'oliday in Ibiza.

HANGOUTS: Weekends are spent touring the pubs and clubs of various provincial towns. Spends most of Friday night in theme pubs, such as Bar Med, before moving onto the curry house or a local nightclub. Saturdays are spent in bed, shopping in Top Man or hanging around amusement arcades. Holidays in Ibiza – 'cos it's wicked.

KNOWN ASSOCIATES: Any young men behaving badly. His 'bird' Sharon.

LIKES: Cheesy dance music, Ben Sherman, Tommy Hilfiger, Next, imported bottled beers, Caffreys, Marlboro Lights, Phats and Small, Jordan, *FHM*, pulling 'birds' and throwing up after a night on the 'raz'.

HATES: Marks & Spencer, pubs without pool tables, discussing politics and religion.

IN OTHER WORDS: A bit of a lad.

PHILOSOPHY: I've got a few quid and I'm going to live forever. Fancy a shag?

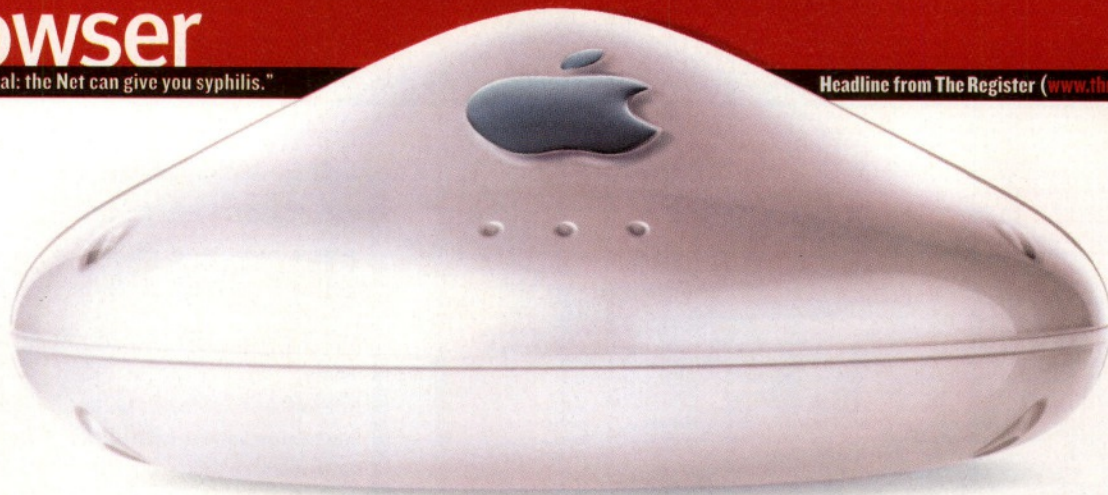
LATEST FAD: Online gambling and ironing his Ben Sherman shirts.

MOST LIKELY TO SAY: Why can't we do it and watch the football?

LEAST LIKELY TO SAY: Actually mate, I couldn't get it up last night. Any advice?

MORE FROM:
www.netscape
online.co.uk





Photograph: Courtesy of Apple Computer, Inc

IBOOK

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www.apple.com/ibook

Usually the Internet is tagged on to computers as a bit of an afterthought. Sure, Windows 98 includes a browser and Dial Up Networking system, and you new PC might come with an internal modem, but tht hardly counts as Internet dedication.

Enter the iBook, the new Mac that's designed from the Internet up. There's a 56k internal modem working on K56flex or the top protocol V.90. Or if you're at work and you want to get to the Internet through a network, you can use the iBook's built-in 10/100BASE-T Ethernet card.

Internet Explorer and Netscape Navigator are loaded as standard, along with AOL 4.0, Adobe Acrobat Reader and QuickTime 4. A content filter – Edview Internet Safety Kit – is there to offer protection against the Web's excesses.

All this and a 300 MHz processor squeezed into a package that's just two inches deep and weighs less than seven pounds.

Very nice. But add on the AirPort option and things get even better. AirPort is the equivalent of a cordless telephone system for computers. Plug the base station into your telephone socket and you can surf around the house from anywhere within 150 feet. You can also share your connection with other iBooks and chat with them on your own network.

It's the first computer designed with the Internet specifically in mind.


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:-) Attention seeker

A 68 year old woman who claims to have shot her daughter "to get her attention" has achieved global fame (or rather notoriety) for all the wrong reasons. Shirley Egan has been the centre of the first trial in the US judicial system to be broadcast over the Net. The trial took place at Florida's spanking new Orange County Courthouse, where each room has been equipped with a server and Web cams.

www.ninja9.org

Actinic/Internet Magazine seminar series

E-commerce is not just for the Amazons of this world. Smaller companies are steaming ahead to gain Net sales.

Internet Magazine and Actinic Software, creator of the award-winning Actinic Catalog shop-in-a-box software, are running a series of seminars, with speakers from Yahoo! UK. They'll demystify e-commerce and explain how it can work for your business. The seminars will explain how retailers can minimise risk by applying a cost-effective, simple to use solution, and how resellers can provide successful e-commerce sites for their clients.

Issues such as site hosting, design, secure payment, order processing, shipping, and marketing your Web site are some of the things you'll learn about at these events. You can also try Commerce Consultant, a new interactive tool from Actinic, which will help you decide what to do about e-commerce.

The half-day seminars will be held in London, Bristol, Glasgow, Manchester and Birmingham during October. Registration, dates, and agendas are available from the Actinic Web site. www.actinic.co.uk/seminars

TRENDSPOTTING

Our survey says...

Kids are taking to the Net in huge numbers. How they use it, and what they think of it, is vital to the Internet's future

It's expected that there will be 77 million Internet users under the age of 18 by the year 2005. In the UK, there are already three million users under the age of 17, and NOP Research (www.nop.co.uk) says this represents an increase of 12 per cent since the beginning of the year.

British kids think Internet users are 'friendly', 'clever', 'cool', 'trendy' and 'rich'. No mention of anoraks, apparently. This bodes well for the future, with 46 per cent of British children and teenage Internet users having already shopped online.

Forrester Research (www.forrester.com) discovered that young online consumers are less concerned with brand names and more interested in activity and utility. Most purchases are made using a parent's credit card, but a new scheme in America has allowed parents to pay into an account that gives their children a finite 'cyber allowance' to spend online.

Another recent UK survey, this time from Fletcher Research (www.fletcher.co.uk), found that 61 per cent of users under 18 are female. Girls spend more time sending email and using chat rooms than boys, with the lads more likely to be occupied downloading software and music or accessing entertainment information.

Disney Online (www.disney.co.uk) commissioned a pan-European NOP survey to promote its Safe Surfing Week in the UK, which threw up some fascinating comparisons between attitudes of children and parents, both here and abroad.

UK parents are the most likely to browse the Web with their children, with 84 per cent sharing the online experience. French parents were the next most likely to join their kids at 73 per cent, followed by German mums and dads at 54 per cent.

But 64 per cent of German kids have had an upsetting experience on the Internet or have been frightened by something or someone they came across while browsing. Only 48 per cent of British kids have had such an experience. French kids are either more cautious or less sensitive, with only 30 per cent getting upset.

In Germany, 20 per cent of the children using the Internet had found something that had got them into trouble with their parents.

More detailed information can be found at NUA Internet Surveys (www.nua.ie)

THE WILD, WILD WEB

■ To complement our spotlight on MP3s (page 77), why not have a look at the Premature Death of Rock Stars Web site? The site displays an amazing amount of schadenfreude by merrily telling us that the average age of a rock star at death is 36.9 years. There's a summary list of causes of death (all the usual suspects – drugs, alcohol, suicide – but also plane crashes, heart attacks and unknown!), as well as individual cases. Ironically, some of the band names include the likes of DOA, germs, Dead Boys and the Grateful Dead... www.av1611.org/rockdead.html

The fear of the LORD prolongeth days: but the years of the wicked shall be shortened.
Proverbs 10:27

Average Age at Death of Included Rock Stars...	36.9 Years
Average Age at Death of Americans...	75.8 Years

(*) Click on the picture for the full list of names.

(**) The list is based on the death of a rock star whose name was included in the list. It is NOT a "PROOF" of the average age of rock stars, but an interesting statistic.

■ If you should ever be stranded in the frozen wastes trying to avoid death, one way would be to build an igloo. But how? Simple, just rig up your laptop and your mobile and get yourself along to the Igloo Builders Guide. Here you'll find step by step instructions in constructing a house from the icy environment around you. It's got pictures and everything.

http://home.sol.no/~gerda/igloo_bg.htm



■ For those who really do work too hard and have no time for life admin, this little site could be crucial to your free time management. Pet Names with Personality lets you look for names for your dogs and cats, be they male or female, using categories such as Affectionate, Cartoon and Foreign. Or just check out the top 20 names for your pet in Australia or the US. There's even a dog age calculator, in case you need to know when Fido's real 30th birthday is, as well what to call him.

<http://bowwow.com.au>

■ In a similar vein as the Black Hole we featured a couple months back (www.ravenna.com/blackhol.html), which featured a black Web site with the occasional message along the lines of "dark in here, isn't it?", we now have the bizarre waste of Web space that is Web White. The site consists of one solitary white page with the simple – if incorrect – message "everywhere but here".

www.webshite.com

everywhere but here

WHAT ARE YOU LOOKING AT?

Favourite sites of real people. Email yours, with your picture, to martynm@internet.emap.com



Karen Brown, 27, singer/comedian
www.imdb.com

"I love the cinema and this site is unbeatable for info and trivia."



Tom Marshall, 27, merchant banker
www.qxl.com

"I just bid £400 for a brand new PC, and I got it! That's what I call dealing."



Anita Ticchi, 18, student from Rimini
www.skunkanansie.co.uk

"It's cool, with plenty of video clips and news about the band."



Gillian Kennedy, 31, businesswoman
<http://dir.yahoo.com/Recreation/Outdoors/Scuba>

"I love diving holidays and this resource is global."

You, the Internet and NetDirect...

TOGETHER WE MEAN BUSINESS

www.netdirect.net.uk



"The recruitment industry has been especially affected by the technology explosion of the last decade and Morgan Chase has benefited hugely from this. NetDirect gave us a tailored business solution, that has expanded as rapidly as we have. Reliability of service has been an essential part of NetDirect's solution." **Matthew Winfield, Director.** The Morgan Chase Group.

For business the Internet means, what was once an interesting possibility is now a competitive necessity, and is becoming essential for small, medium and large organisations alike.

Because ISPs are crucial to the success and effectiveness of Internet access and because different businesses have different requirements, choosing the right service provider is vital.

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STAMP, TACKLE AND PROP

It'll feel like Christmas has come early for rugby fans. The Rugby World Cup is coming to the UK and the Internet's providing highlights of matches, the latest news and full tournament coverage. **Richard Dinnick** scrums down with the team from the Rugby World Cup 99 site

Rugby. The word conjures up a host of images. The prop forward built like a brick outhouse, the punch up on the pitch and white jerseys splattered with sweat, blood and mud. It might even throw up memories of freezing cold afternoons at school, watching as your legs turn a whiter shade of blue.

Perhaps you, or someone you know, used to date the ruggedly good-looking captain of the school (now in either the Royal Marines or behind bars). But whatever image you have of rugby, it's unlikely to include the Internet – a medium the tabloid press still refers to as the nerd's paradise.

But think about it. The same could be said of football, and no one's doubting the huge popularity of soccer sites on the Web. According to research, between 19 and 35 per cent of all time spent online at work is used for personal interests. And that's increased since last year's figures.

Several companies are trying to tap into this audience of people who follow sport online, and there are many new rugby sites this year, including Rugby 365 (www.rugby365.com).

The Rugby World Cup is closer to home this year – three of the host nations are in the UK – England, Scotland and Wales. This international tournament is taking off in terms of attendance, popularity and interest. And what better way to deal with the increased interest than by using a medium that broadcasts 24 hours a day to the entire globe?

A sporting pedigree

An event site might sound simple to produce, but designing and running it is a special skill that Web designers have struggled to master. Enter site designers TWI Interactive, the new

media division of TWI – the largest independent producer and distributor of sports programming in the world.

"We're probably the biggest Web designers that no one has heard of," says site manager of TWI, Kyle Pratt. TWI Interactive is also part of IMG – the world's leading sports marketing agency.

Its parent company deals in the broadcast and marketing rights to a multitude of sporting events, so it's not surprising that TWI Interactive has created a number of well-known sporting sites.

"We build dynamic, televisually rich, digital sports applications for some of the world's premiere sports properties," explains Pratt. And the client list reads like a who's who of the sporting world – Manchester United (www.manutd.com), the Brazilian national football team (www.brasillfutebol.com) and the official Web site for the Open Golf Championship (www.opengolf.com).

October 99
internet
magazine
Site of the
Month

RUGBY WORLD CUP 99

www.rwc99.com

For being a timely and state of the art example of what an event site should be, Rugby World Cup 99 is our Site of the Month

DESIGNERS

TWI Interactive

DEVELOPMENT TIME

Six weeks

COST

An undisclosed six figure sum

SIZE

420Gb (including images, audio, video and a database)

NUMBER OF PAGES

More than 2,000

LAUNCHED

August 1999

the level of professionalism in the sport," says Pratt. TWI Interactive and BT (the owner of the rights to the site, and one of the competition's major sponsors) became partners.

Team work

"TWI operates as a third party contractor for BT in this instance," says Pratt. "The obvious advantage for BT is we work for a company that has close ties to the Rugby World Cup itself."

The advantages for TWI Interactive are also clear. BT is providing a massive 420Gb of hosting space on Compaq servers, running Windows NT at its Bletchley facility. BT's sponsorship also means RWC and TWI can work closely to make sure the official online coverage is of the highest standard. For Pratt, the plan is simple. "The aim is to produce the most dynamic and interactive sports site on the Web," he says.

This enormous site is capable of handling millions of page impressions per hour, and in case anything should go wrong in the UK, there's also a mirror site in the US.

Amazingly, despite the number of expected visitors, the site doesn't carry a single banner ad. The basic premise is only sponsors of the event can advertise on the Web site. "It's not a profit-seeking venture," says Pratt. "For BT, it's an opportunity to showcase what it can do on the Web."

The conversion

The previous Rugby World Cup site covered the qualifying rounds and was managed by the company's press officer, Mark Goddard. This was completely controlled by RWC and was constructed in flat HTML (see the before and after pictures on page 30). This meant RWC could only produce text-based information, such as news, match reports and statistics.

For the new site, Rugby World Cup Ltd maintains the site with two professional rugby journalists – Rowan

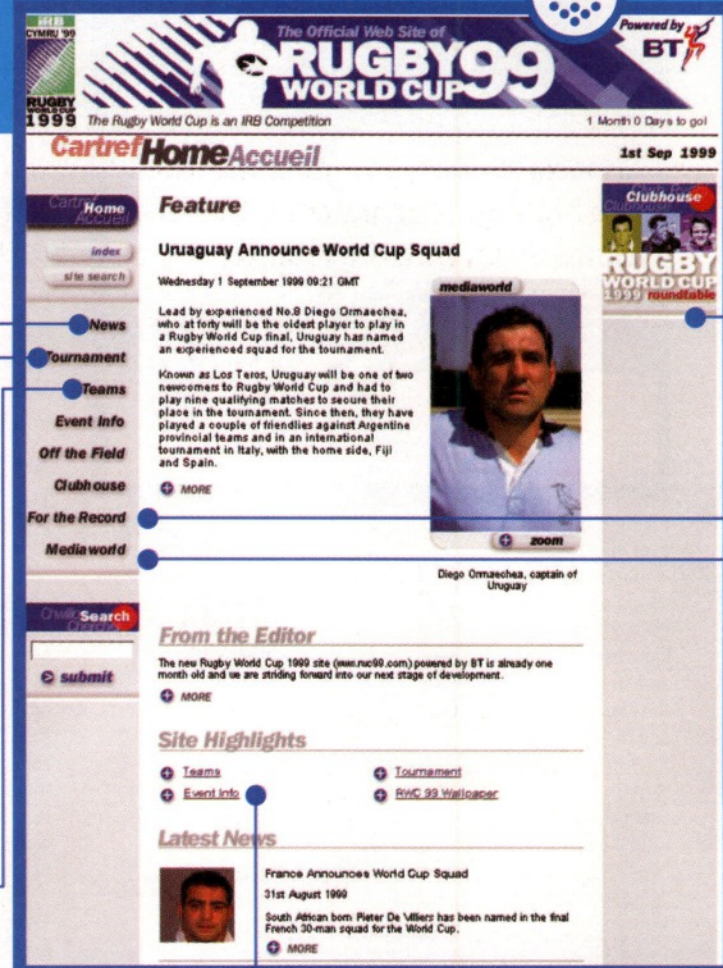
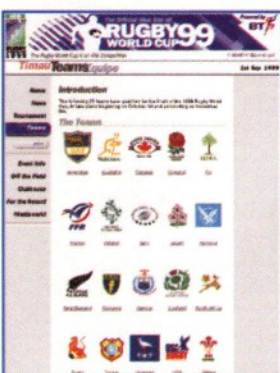


Building the team

"Rugby World Cup Ltd saw this as an opportunity to bring rugby to the world, with a Web site that accurately reflected

You can search the mediaworld database for images, audio and video

HOW IT WORKS



WHAT THE EXPERTS SAY



Daljit Singh, creative director DIGITAL EXPERIENCES

I'm not a Rugby fan, but the news is up to date, informative and readable. The navigation is easy to use and the rollovers on the left-hand navigation frame look great. One thing that puzzles me is the ability to zoom in on pictures of the players. I don't see the point of this, unless you want to inspect their noses. There's a vast quantity of information here and it's easy find, but the site doesn't really convey the action, energy and drama of "the largest sporting event in the UK this year". Perhaps this'll change when the tournament gets going.

www.digital-experiences.com



Margaret Manning, commercial director READING ROOM

It's hard to fault this site – the simple and elegant design uses subtle colours and intelligent graphics without seriously affecting download speeds. It's been designed for heavy use by an information hungry audience that'll appreciate the clear navigation and simple search options. Unfortunately, the search facility isn't on every page, but the team history and news sections are excellent. Unlike some of last year's football World Cup sites, it'll be easy to find results during this tournament. It's refreshing to see a site that's put so much effort into function, as well as design.

www.readingroom.net

Quinn (daughter of the New Zealand rugby commentator Keith Quinn) and Kerry Muldoon. They input material directly onto the site using publishing tools. This means it can be updated quickly – a critical part of the site during the competition.

The triumvirate of RWC, BT and TWI worked closely to develop the design brief and the initial structure took a further six weeks to build. "We're adding enhancements all the time – even after the Rugby World Cup begins," says Pratt.

For the front end design, Barry O'Riordan (head of TWI Interactive's design department) worked closely with Chris Thau (the media manager for the 1999 Rugby World Cup) to develop the look and feel of the site.

Design experts from BT also contributed to this process. "BT wants the site to push the boundaries of online sports coverage using interactive and dynamic tools to make the experience fun and informative," explains Pratt.

Tackling the news

In terms of content, the site is split into seven areas – News, Tournament, Teams, Event Info, Off the Field, Clubhouse and For the Record.

The news is compiled by the two journalists working on the site in conjunction with colleagues in other countries. "We have relationships with journalists throughout the world," explains Pratt. "We can obtain news that people wouldn't usually be able to find and produce it dynamically on the site."

The pages are updated as the news comes in – five to 10 times a day – and is broken down into the main story, four secondary items and a list of headlines. But each story is covered in depth – a simple click on the headlines gives you a feature-length story.

As today's headlines become yesterday's news, they're archived in a



for distribution, so they can't be sold over the Internet.

But most visitors will be interested in the games, teams and players themselves. The Tournament section kicks off by listing the different matches and stages of the competition. Details of the matches include the teams involved and the venue.

You can click on the name of the stadium for more details, such as capacity, location, how to get there, tourist information on where to stay near the stadium and relevant links. You can also zoom in on or move the stadium's image.

Curiously, you can't click on the individual teams here. You have to click on the Teams button in the menu, but that's only millimetres away. For more

The previous Rugby World Cup site was restricted by flat HTML (above). For the new site, TWI worked with BT and RWC to produce a far more dynamic and interactive design

This is also the section that deals with referees and touch judges – just in case you want to know who to shout at when your team's penalised.

In its attempt to be comprehensive, the site also has a travel area, listing agents that can get the best deals for fans travelling from abroad. If you're in the UK, you can find out about packages for the games that'll be played in France and Ireland (17 out of the 42 matches).

And if you're interested in corporate hospitality, you can have a look at the packages featured on the site. You can't pay for them online, but there's a good list of contacts covering the various aspects of the World Cup.

Finally, Clubhouse is the site's online round table. The site was launched with online chat featuring Ian Robertson (the voice of BBC Rugby), Robert Howley (the Welsh captain), Gavin Hastings (former Scottish captain) and Pat Howard from Australia. There are also plans for topical debates, which will be open to all rugby fans.

All the skills

There are certain expectations of an event site in terms of complete coverage. And the TWI interactive team has used a considerable amount of technology to meet those expectations – hence that huge allocation (420Gb) of server space.

While the editorial team is focused on generating and managing content, the site will be broadcasting radio commentaries (in Real Audio) from all the games in the UK. The site has a radio feed from the BBC, which amounts to well over half the games – a massive undertaking for a Web site.

If you can't wait for the highlights, TWI has even managed to negotiate the exclusive right to use two minutes of video footage immediately after the final whistle. After a 40 hour embargo, the amount of footage on the site increases to 12 minutes.

On top of all this, the site will be carrying a live Java applet – a 'match tracker' that'll constantly update the latest scores and provide highlights from the game. TWI has worked with Unisys to make sure this feature works for both the person inputting the data and the visitors. "We hope this'll show the site is at the cutting edge of sports coverage," says Pratt proudly.

And what'll happen to this amazing site when the final whistle of the final has sounded, the fans have all gone home, and the Millennium Stadium in Cardiff waits to see if it'll be considered as the new Wembley?

"The site will stay up as a matter of record," says Pratt. But it won't just show an archive of a popular sporting tournament, it'll show what state of the art Web sites were like on the verge of the 21st Century.

"The aim is to produce the most dynamic and interactive site on the Web."

searchable database. And while the journalists work directly with the RWC press officers to get the news to the public, Unisys has been drafted in to make sure the site's statistics are never out of date or inaccurate.

Showing off the cup

You can get information about the history of the Rugby World Cup, as well as stadium details, ticket allocation and pricing. But the site doesn't sell tickets online. This isn't an oversight – all of the tickets are allocated to the home unions

general facts and figures, the Off the Field section takes a behind the scenes examination of the event, detailing expected attendances and what the tournament means for rugby.

In the Teams area you'll find the 20 competing nations and their emblems on the opening page. Select a country and click through to get more details. You can check any of the teams' past successes in the World Cup and find out their qualifying details, before checking out the squads, their managers and even their national anthems.

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In the public interest

When the BBC advertises its new free Internet service throughout its multimedia empire, other UK ISPs can't compete. **Martyn Moore** thinks that's wrong

If you asked me to list 10 things that I love about Britain, the BBC would be one of them.

Because, to use the corporation's own line, I help "make it what it is". I'm proud of its wonderful programmes and the way it presents Britain to the rest of the world. The BBC has marked out the chapters of my life, from *Watch with Mother*, through *Blue Peter*, *Swap Shop*, *Dr Who*, *The Two Ronnies*, *The Young Ones*, *Steve Wright in the Afternoon* and *Match of the Day* to David Attenborough.

So it's hard for me to reconcile the feelings I'm starting to have towards dear old Auntie. I'm worried she might be turning into a money-grabbing old witch.

My fears were raised when BBC Worldwide announced its new free Internet service, Freebeeb.net. The ISP will, no doubt, be a runaway success, due in no small part to the size and reputation of the BBC as a brand. Because the institution is so firmly entrenched in the nation's psyche, representing quality and trustworthiness, customers will sign up in droves.

The BBC has gone to great lengths to point out that BBC Worldwide is the commercial arm of the corporation, and that no licence-payers' cash will go into the ISP service. But what the public-funded sector gives the Internet service is far more valuable – it gives it credibility and clout.

BBC Online, the enormous and impressive Web site, is funded by public money. Questions have been asked already about the use of the licence fee to create a Web site. A TV licence costs £101 a year, with that odd pound more

add a small statement to the adverts: "Other gardening magazines are available." But *Radio Times*, *Top Gear*, *Good Homes*, *Homes & Antiques*, *Good Food*, *Holiday*, *BBC Music*, *Top of the Pops*, *Live and Kicking*, *Match of the Day*, and the rest, still enjoy free ads on the advertising-free BBC.

At the press launch for the new ISP, we were told that a huge marketing machine was swinging into action to hit readers of these 'as seen on TV' magazines with cover-mounted Freebeeb.net CDs, advertisements and promotions.

This news didn't really come as a shock, just a further irritation.

But if BBC Worldwide wants to include *Internet Magazine* in its plans for a press advertising cam-

"I'm worried Auntie might be turning into a money-grabbing old witch."

or less covering the £23 million spent on the BBC Online service last year – even though it can't be viewed on the television sets that incur the levy. The day after Freebeeb.net was announced, the new ISP was the lead Internet story on BBC Online's Sci/Tech News page.

Viewers of the 'advert-free' BBC are invited to check out BBC Online and the commercial site, beeb.com, in promos following programmes as diverse as *EastEnders* and *Newsnight*.

This kind of criticism has been levelled at the British Broadcasting Corporation before. The nation's biggest TV and radio organisation has been irritating magazine publishers for years by advertising BBC Worldwide's specialist magazines on its programmes.

Gardening magazine publishers argued that the *Gardeners' World* television show was effectively a half-hour advert for the magazine of the same name. The BBC responded by saying it was growing the whole market and that everybody would benefit. And nobody benefited more than BBC Worldwide. Eventually, pressure forced the BBC to

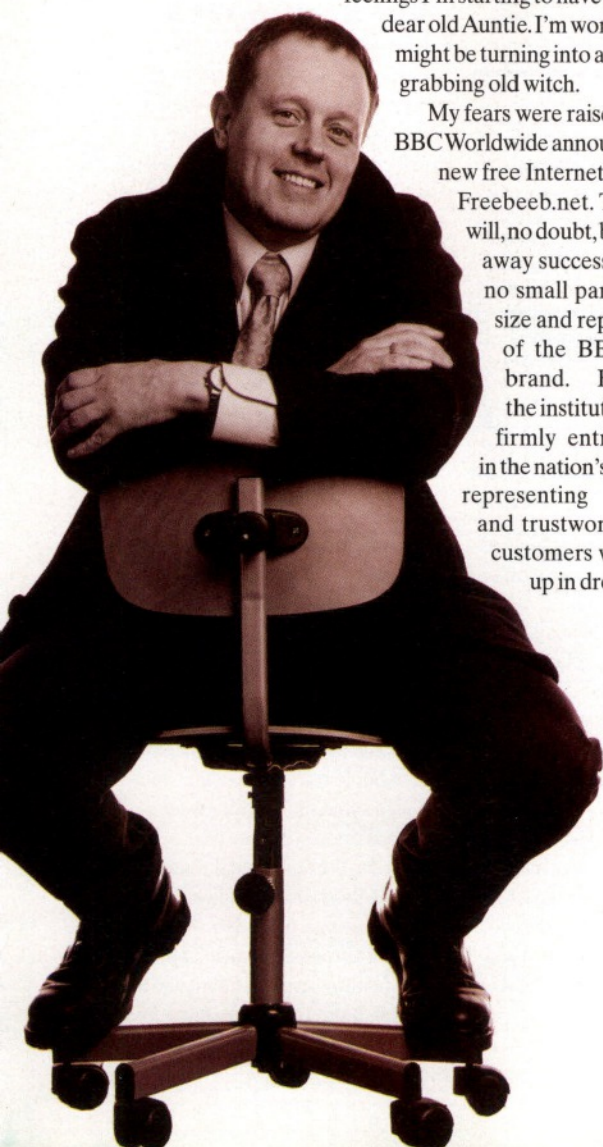
campaign, we'll happily take its non-public funds to promote its non-public funded ISP. We might even give the BBC a special rate in return for a free plug for our magazine after *Animal Hospital*.

I'd be quite surprised if I saw an advertisement for Freebeeb.net on the telly – quite surprised and really angry. But dear old Auntie will still do very nicely by keeping it in the rest of her ever-growing family, and other UK Internet service providers will not be able to compete.

What? You want to know what my other nine favourite British things are?

- 1) Tetley's bitter
- 2) Triumph motorbikes
- 3) British popular music
- 4) English football
- 5) Glasgow humour
- 6) Isobel Lang (BBC weather girl)
- 7) Seaside piers
- 8) The people who do the real work in what's left of the NHS
- 9) Fish and chips

Martyn Moore is the editor of *Internet Magazine*. He can be contacted by email at martynm@internet.emap.com



mailbox

Email the editor and have your say martynm@internet.emap.com

Branded email

In the article *Making your site sticky* (September 1999), you suggested free branded email accounts as an excellent way of keeping people glued to your pages. But you no longer have to pay. BigMailBox (www.bigmailbox.com) offers facilities-managed, branded e-mail free of charge – all you need is your own domain name and the ability to change your Mail Exchange record. We've been offering email through BigMailBox on our site (www.ratbike.org) for over three months now, and we think it's an excellent service and offers terrific value.

Stefan

webmaster@ratbike.org

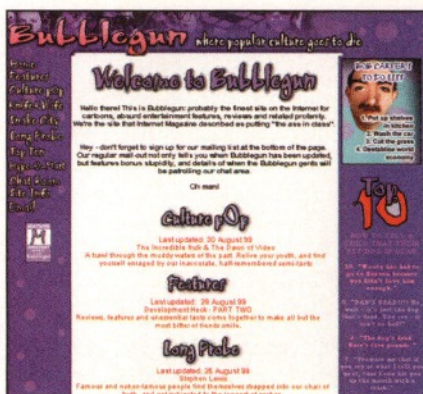
Bubblegun.com

Thanks for the mention of our site in your Wild Wild Web feature (September 1999). This kind of official recognition is just the sort of incentive we need to keep going. Unfortunately, you printed our address as www.bubblegun.com. We're actually www.bubblegun.com – with an 'n', not an 'm'. Can you let your readers know the correct address please? You can also say the site has been given an overhaul and now looks sharper and more stupid than ever.

Paul Rose

paul.rose@bubblegun.com

Martyn Moore writes: I'm not sure about 'official' recognition, Paul. We're blaming the spellchecker for our mistake.



LETTER OF THE MONTH

Never look a gift horse in the mouth

After reading the August issue, I was amazed at the amount of criticism aimed at Freeserve and free ISPs in general. I believe this criticism to be rather unfair for two reasons.

First, I remember a story about a telephone survey conducted years ago, the results of which were later found to be wildly inaccurate. At the time, the telephone was quite a luxurious commodity, so the people surveyed were wealthy individuals, rather than a representative spread of the population. My point is that the people who read (and write) your magazine are people who probably spend a lot more time on the Internet than the average person.

They're therefore quick to complain when they can't log in for a couple of minutes, but forget they've been online without problems for three hours earlier in the day. I think the average browser is far more tolerant of the odd connection problem, as they (myself included) use the Internet for non-urgent tasks, such as email or general browsing – even half an hour to send an email is still a lot quicker and more convenient than snail mail.

Second (another story coming up), I once bought a car from a used car dealer. He said I would probably only ever speak to him again if the car went wrong – nobody had ever called him to say their car was working fine. I believe this is happening with Freeserve. I've read the letters of complaint in your magazine, and my mind wanders back to that poor Renault dealer! I've been using Freeserve since it started, and I login once a day on average.

I've never had to dial more than twice because of engaged tones. In my experience, the speed and reliability of Freeserve is much better than my previous Internet provider.

I hope this letter helps redress the balance. I congratulate Freeserve on shaking up the market so radically.

Connor Sadler

connor@freeaccess.freeserve.co.uk

Our star letter wins a £75 Amazon voucher to spend at the site.

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amazon.co.uk

Hidden extras

I think it's about time protocols and standards on Internet services

advertising were set out by the Advertising Standards Authority.

Two years ago I tried to get prices for a domain name and hosting for a voluntary project – the WebChurch (www.webchurch.org). Every time we thought we had a final figure, it emerged that there were still Internic fees, set-up fees, transfer fees and

VAT. And free products or services turned out to be things we didn't have to pay for anyway.

We got so weary of hosting services that were terrified of quoting us a simple all-inclusive price that we did it ourselves.

We soon had orders piling in from other voluntary organisations and small businesses. Our success is proof that you can give an all-inclusive good value price and still make a profit – even though we cling to the custom that when we call something free, we mean you don't have to pay anything for it.

Alyson Leslie

office@meant.co.uk

ADSL local

I spotted your news headline 'Fast access to be universal?' in the September issue, which referred to Asymmetric Digital Subscriber Lines (ADSL). But I fear it's going to be far from universal.

According to a statement on BT's site (at www.isntrial.bt.com): "ADSL is distance-dependent – customers will typically have to be located no further than 3.5-4km from their local exchange."

This rules out many areas of the UK – there are places where teleworking is badly needed to provide employment and to reduce the depopulation in rural areas.

Martin Ragg

arcadian@cults.dircon.co.uk

Let's see specs

It would be helpful if you could publish a chart of the most popular browsers (and versions), plug-ins, operating systems, screen sizes and colour depths of Internet users. If this was updated every few months, it would mean designers could optimise their Web sites for the most popular specifications. Must fly.

Roy Reed

royreed@reeddesign.co.uk

Martyn Moore writes: We could do that Roy, or you could fly to the BrowserWatch Stat Station (at <http://browserwatch.internet.com/stats/stats.html>). Unfortunately, you won't find all the details on your list. But if we get any of these statistics we'll try to find a home for them in the magazine.

Fontworks first

I saw the Separated at Birth item in your September issue – you might notice some similarity between both of those sites [see the diagram, top right] and the work by Neville Brody on the Fontwork's site www.type.co.uk/fw.

The site went online in 1995 and was featured in the introduction (by Neville Brody) of a book called *Multi-Media Graphics*, which was



Separated at birth – but there's no disguising the Brody bunch

published by Thames and Hudson in 1996. I enclose a photocopy for your perusal.

If you're going to check out our site, be quick as we're about to re-design the whole thing. I think you should put the record straight, and as the article says, let the reader be the judge. By the way, nice use of the Meta font in your extremely informative magazine.

SA Jensen

stuart@type.co.uk

Breadhead Baggers

Richard Baguley draws attention to some legitimate areas of concern regarding the theft of intellectual property, but he overstates his case when discussing bandwidth theft (September 1999).

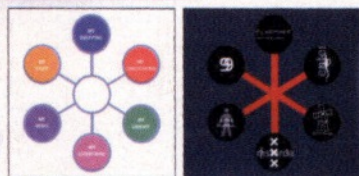
If Baguley is right, the majority of search engines are breaking his parsimonious rules by retaining other people's material on their hard disks and using other people's work to attract visitors to their Web sites.

Indeed, anybody who builds a simple index page could be accused of the same trespass. But where would we be without search engines and indexers? Lost in cyberspace, that's where!

While plagiarism does exist, there's another thing called legitimate academic endeavour. This occurs when a work contains facts, figures, quotations and illustrations that have been drawn from another publication.

To do this correctly, you should attribute the source of the

SEPARATED AT BIRTH?



Sometimes you just can't help noticing some startling similarities between this pure coincidence or is there a conspiracy at work? My Nutrition, stop shop for healthy living (on the left) launched this site in 1998. Bij-Voorbeeld, the Dutch design company, created the site on the right in 1999. One design has a copyright, the other doesn't... You be the judge.

www.mynutrition.co.uk / www.bij-voorbeeld.nl / bij-voorbeeld.com

information to the original publication or author. Using an online image located elsewhere might be sufficient for this. But copying it to your own server would be considered theft.

Let's not forget, though, that the Web was created for academic collaboration, and not as an arena for egocentric graphic designers and other money-driven airheads to strut their stuff. So rather than looking at the Web as a competing collection of 'cool places to hang out', try thinking of it as one site which we're all contributing to.

If you don't like that idea, don't publish in this medium. Stay in your print ghettos and let real Netheads get on with the huge task of collating, indexing and sharing information, most of which has been placed there in a spirit of complete altruism.

Robert Fellowes

stardust@starblazer.win-uk.net

Sweet talker

I've been wanting to teach myself Web page design for some time, but I've struggled to find appropriate books in South Africa. I stumbled across the July issue of your magazine by accident.

The poor exchange rate means it cost me over £5.70, but it was worth every penny. It really is a great magazine. You have a great team working with you and I congratulate you on what you've achieved. I only wish we were as "jacked-up" as you are in the UK.

Michelle

michelled@yebo.co.za

Bottom line philosophy • email sign-offs that made us smile

"Condense soup, not books."
Paul Stead

"There can't be a crisis today, my schedule is already full." Graham Dunnington

"It's impossible to travel faster than light, and certainly not desirable, as my hat keeps blowing off." Nigel Williams

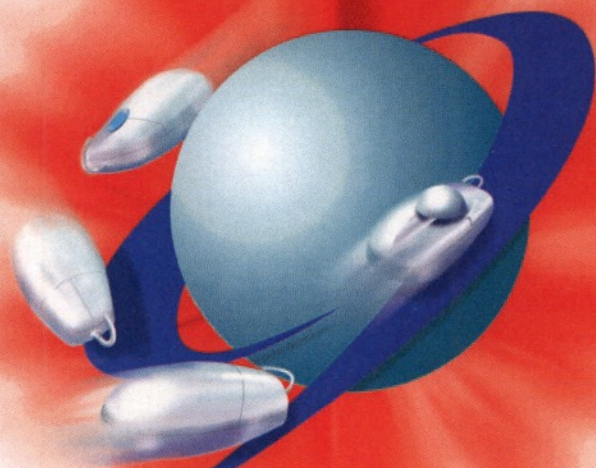
"I pretend to work, they pretend to pay me."
Alan Baines

"Iguana – the other green meat."
Sharon Challiss

"A rock > me < A hard place." Jo Sykes

You can email your favourite sign-offs to martynm@internet.emap.com

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- Access to raw log files



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*Set up charges apply

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UK domains (.co.uk, .org.uk)	£20
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Austria domains (.at)	£100
Bahamas domain (.bs)	£80
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France domain (.fr)	£360
Germany domain (.de)	£165
Holland domain (.nl)	£45
Ireland domain (.ie)	£95
Libya domain (.ly)	£80
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**DON'T PUT UP WITH A
EVERY STEP BETWEEN YOU AND THAT
STEVE PATIENT BRINGS YOU
THROUGH INTERNET CONGESTION IN**

You've got two minutes to find some information online. You switch on your PC, fire up good-old IE5, type in the URL and hit the return key – and nothing happens. You've hit Net congestion, and it seems there's nothing you can do about it.

If we each had a penny for every minute spent looking at those immortal words 'Finding Web site' or 'Web site not responding' that appear at the bottom of your browser as it struggles to reach a site, we'd all be very wealthy. In fact, probably all as rich as Sir Peter Bonfield, chief executive of BT.

Some argue that Internet traffic jams and hold-ups are the price you pay for having 180 million people connected to the Net worldwide (10.6 million in the UK alone). But while it's true that, just like roads and motorways, there are too many users and not enough width (bandwidth, that is) – that's not the whole story.

In practice, the Net suffers from bottlenecks and inefficient use of resources. But we'll show you the best way to access sites and get that data back to your PC. We'll tell you where hold-ups can occur and how, with a bit of cunning, you can bypass them.

Faster Web sites

If there was a law against Net hold-ups, owners of under-powered Web servers would've been behind bars long ago.

Web servers use HTTP, the protocol underlying the Web. It's horribly inefficient. A standard Web page can contain more than 15 different files, each of which need a new HTTP connection.

This chews up server processor cycles, increases latency and clutters the Net with pointless data packets. In other words, it makes it slow. Luckily, the next generation of servers will fix this, bringing pages that download up to four times faster with a single connection. »

SPEED!

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There are also a lot of smart moves you can make at your end to improve performance. If a site has mirrors, use the one physically closest to you – it's usually faster.

When you're downloading software or files from the Net, if a site gives you a choice between downloading from a Web page using HTTP and downloading from an FTP site, use the FTP site – it can be up to five times faster. People are lazy and take the easy option, leaving FTP servers idle.

Above all, don't use slow sites. Don't pay the cost of someone else's savings on server power and bandwidth.

The Network

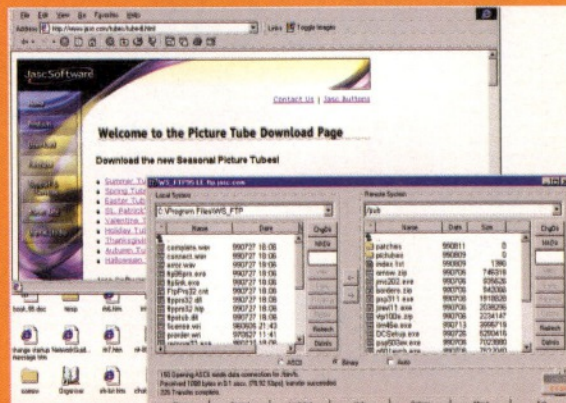
Just like taxi drivers know the best short cuts and routes through traffic,

you can use the fastest routes online. The Net consists of many interconnected networks. These can be public or private, expensive or cheap, fast or slow.

The networks are connected in two main ways. The traditional way is via NAPs (National Access Points, or Network Access Points), which also provide the country to country connection points. The main UK NAP is LINX – The London Internet Exchange. In the US, NAPs tend to be known as MAE – Metropolitan Area Exchanges.

At a NAP, network operators can plug servers and routers into a digital bus, which lets them exchange data packets across networks. NAPs are fast, but can also act as a bottlenecks.

To avoid this NAP bottleneck, big ISPs and cable operators with their



in bed by our lunchtime. The Net may be 24/7, but the people who use it aren't.

Your ISP

Having tried dozens of free and paid-for ISPs recently, we wouldn't use a free provider for everyday Net access. ISPs with a business bias provide more reliable and faster modem connections. They also provide faster authentication (less waiting before you can browse) and better Net services.

Naturally, an ISP maintained by a company running part of the Net backbone is likely to perform better overall. So BT Internet, UUNet and Cable & Wireless can be expected to provide a faster Net experience. And if there are problems, at least you can complain and get them fixed – you're a customer when you pay for a service. But with a free ISP you're a resource – and we all know how carefully human beings look after resources they don't pay for.

So how can you check how well your ISP's performing? You can

Above: You don't have to use Web pages and HTTP to download files – a lot of software vendors maintain little used and much faster FTP servers, such as Jasc (www.jasc.com)

Below: Utilities such as NeoWorx's NeoTrace can track a connection across the Net, show which backbones you're using and pick out bottlenecks

It can be tricky to discover which companies networks go where and who they connect to. It can also be useful. A job for dull winter evenings

ABOVE ALL, DON'T USE SLOW SITES. DON'T PAY THE COST OF SOMEONE ELSE'S SAVINGS ON SERVER POWER AND BANDWIDTH.

I did it for the Net!

If there was a minimum speed limit enforced on the Net, many Web site designers would be on first name terms with the boys in blue. Luckily, if you follow our simple tips you can avoid annoying too many visitors to your site

- 1 Access your site as though you're a visitor, and change ISPs if your provider's unresponsive.
- 2 Don't use active content or features that require plug-ins.
- 3 Cut out unnecessary graphics and all large pictures.
- 4 Don't use frames – it's just more pages to download.
- 5 Avoid page features – such as counters – which depend on links to other sites.
- 6 Re-use icons and buttons so they can be loaded from the local cache.
- 7 Don't use content or code which stops your pages being cached by ISPs.
- 8 Always specify table and graphic sizes for faster page layout.
- 9 Make sure the text arrives first, then the graphics, for immediate user benefits.
- 10 Avoid SSI (Server Side Includes) – they delay page downloads.

own backbone provision also make peering arrangements. For instance, UUNet peers with Energis, which peers with Scottish Telecom, which bypasses the NAP.

It's generally faster to connect to a server on the same network as your ISP, or on a server that's hosted on a network peered with the carrier that provides your ISP's Internet backbone connection.

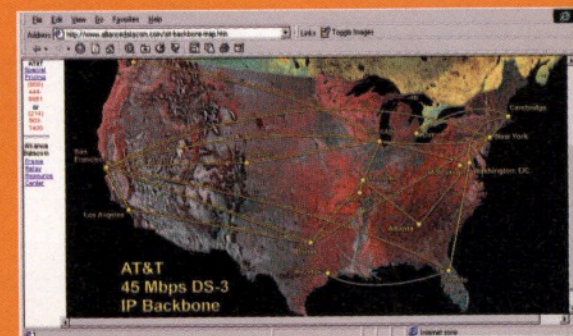
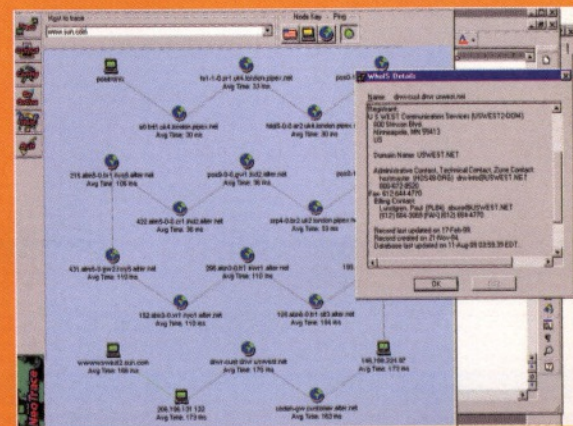
The less connections between you and the high-speed backbone, the faster and more reliable everything becomes. If your ISP is UUNet, part of MCI/Worldcom, you're going to get better performance than someone using Sprognets, which has a 64k line into Newnet, which takes a feed from Fishnet, which uses BT for backbone access.

The same principle applies to miniature free ISPs running on equally tiny telcos. Many of these won't have their own Net backbone access and have to interconnect to someone like BT, Energis or AT&T before getting on to the Net backbone.

So what can you do about it? There's no map of the Net, but tools such as TraceRoute can help by showing you how many jumps a connection needs and how fast each section of the connection responds.

It's true what people say about avoiding using the Net at busy times. You wouldn't take a pleasure drive during the rush hour, and you should avoid using the highways and byways of the Net during specific hours.

The US logs on just before midday GMT – use the Web before this or after US business hours, which stop around 9pm our time. Australian servers are faster in the afternoon, as are Japanese sites. The people there are all tucked up



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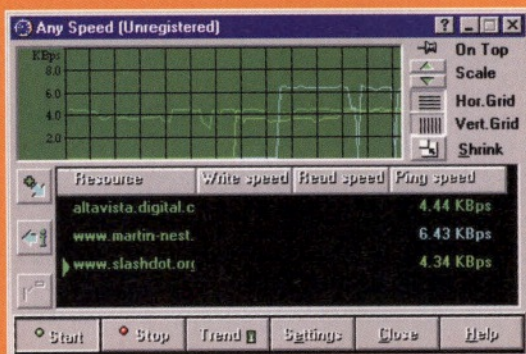
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AnySpeed lets you automatically monitor the performance of several sites at once in real time – and then use the fastest

★ SPEED TIP ★

Hosts Below

When you enter a URL, your browser asks your ISP to look the address up on its DNS and provide the real dotted quad address. The ISP's DNS might have to ask a higher level DNS – after which it's on your ISP's DNS. Then, every day or so, the ISP's DNS is flushed and it all starts again.

If your browser knows the address, you could go straight to the site without any extra data traffic or delays. It's easy. In Win95/98, create a hosts file using Notepad and put it in the Windows folder \windows\hosts

In NT you'll find one already prepared for you in \winnt\system32\drivers\etc\hosts

All you have to do is add one entry per line for any frequently visited site, thus:

```
206.170.14.75
www.slashdot.org
193.122.103.82
www.theregister.co.uk
```

You can get hold of the dotted quads for sites using Ping in a DOS window as shown in the screenshot below. This is only practical for a few dozen favourite sites, as you have to maintain it by hand, but not only is it fast – it's also technomagic. Ping gives you an instant idea of the speed of a site, which can be useful in itself.

```

C:\>ping www.slashdot.org
Pinging www.slashdot.org [206.170.14.75] with 32 bytes of data:
Reply from 206.170.14.75: bytes=32 time=100ms TTL=64
Reply from 206.170.14.75: bytes=32 time=100ms TTL=64
Reply from 206.170.14.75: bytes=32 time=100ms TTL=64
Reply from 206.170.14.75: bytes=32 time=100ms TTL=64
Ping statistics for www.slashdot.org:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 100, Maximum = 100, Average = 100

```

Create your own hosts file for fast local look ups of a site's real Net address from its friendlier URL form

start by looking at our Provider Lab Tests which start on page 148 this month.

Windows (or Linux) will give you the initial connection speed and NetMedic (www.vital-signs.com) can tell you about file download speeds, but to see the real speed of a site, you need a utility such as Py's AnySpeed (www.pysoft.com).

This will track a number of sites for you at once, letting you choose whichever site is responding the fastest. The competition in the ISP market is fierce and customers should expect an excellent service. If you receive anything less, you should consider changing your ISP.

Phone lines

A twisted pair is the ordinary copper wire that connects home and many business computers to the telephone company. The problem is it's better at carrying voice signals than data packets that go to and from your modem.

The quality of some BT lines leaves a lot to be desired. You can check line quality by picking up the phone and dialling '1'. You'll get about 20 seconds with no tones. If there are lots of snaps, crackles and pops, talk to BT on 150.

BT will usually say it only guarantees voice grade connections, so could you please go away. Instead, sign up to BT Internet for a month and complain again under the Sale and Supply of Goods Act.

As a last resort, install a second line. Don't accept a DACS solution that limits modem connections to V.34. The new line will usually be cleaner. Now have the original line disconnected. It's not cheap, but it often works.

The best solution is to convert to Home Highway or ISDN. Both provide a minimum guaranteed 64kbit/s digital connection for uploads and downloads. It doesn't cost a lot more but the performance difference can be dramatic. Unlike modems, digital connections don't slow down when the going gets tough – you'll always get a 64kbit/s connection.

Modems

Most dial-up users connect to their ISP with a modem. You should choose a 56k modem and upgrade it to the latest version of the V.90 standard.

The quality of the part of the modem that talks over the phone lines is crucial. On the same phone line, a good modem will reliably connect at higher speeds than a poor one. Get your modem from a manufacturer with its own Web sup-

port site for firmware upgrades – preferably a branded modem.

For similar reasons, don't use a Winmodem. These are commonly fitted to cheap PCs. Replace it with a good external modem. Winmodems chew up a lot of processor cycles. Many users report connection and speed problems with Winmodems – especially when they're running a heavy duty software, such as a browser.

Eliminate all unnecessary connections between your modem and the phone socket. This reduces line noise, which increases the speed and the reliability of connections. Ideally, wire it straight in. If you can run to a dedicated phone line, even better. Put phones and other kit on the second line.

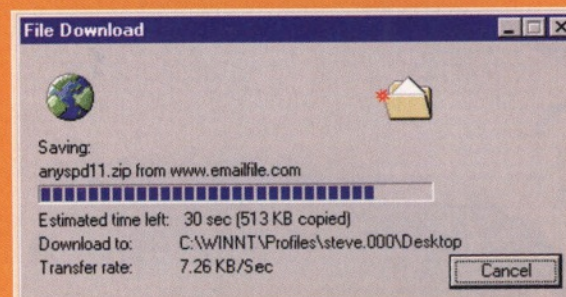
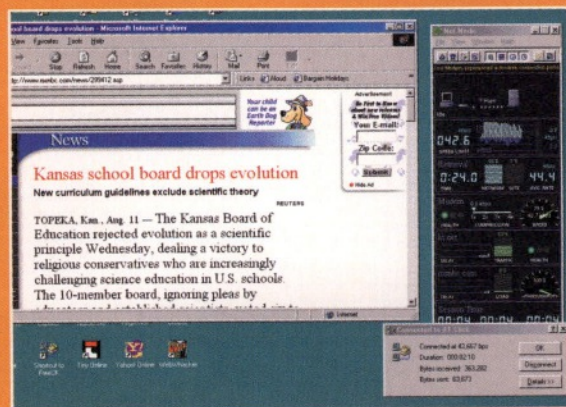
EXPECT AN EXCELLENT SERVICE FROM YOUR ISP. IF YOU RECEIVE ANYTHING LESS, CONSIDER CHANGING YOUR ISP

Browsers

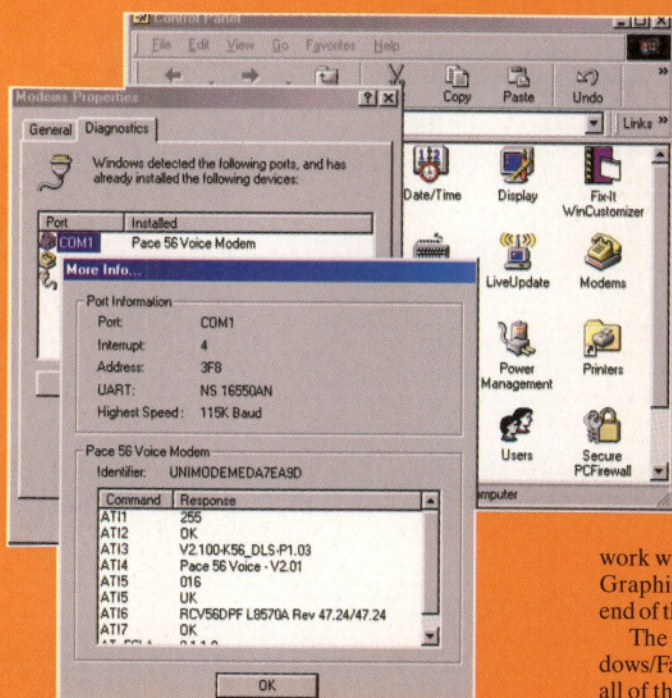
Once you've sorted out the hardware, you'll be able to achieve the best possible physical connection. Now it's time to take maximum advantage of it. Interestingly, the more paranoid (sorry, security minded) you are, the faster you can browse.

Apart from being inherently insecure Java, ActiveX and JavaScript all have to be downloaded to work. If you turn off the active content in your browser it isn't downloaded. Not only will you be a lot safer, but pages will be displayed faster. »

One of NetMedic's best features is to display the average page download speed from a particular site. Use it to find the best time of day to visit popular Web locations



Home Highway or straight ISDN gives you a minimum 64kbit/s upload and download rate with no speed degradation – if it's slow, someone else is to blame



You can check the revision number of your modem's firmware at Control Panel/Modems/Properties/Diagnostics/More Info. Look at AT13

This gets better. Animations, sound and video in Web pages are great the first time you see them, but they soon become irritating, and they take ages. Turn off the support for these features and don't download them.

Finally, as far as we know, there's no browser plug-in that's necessary for Web surfing or speeds it up. So don't

LOSING GRAPHICS IS MORE EFFECTIVE THAN ANY OTHER CHANGE YOU CAN MAKE

use them. Your browser doesn't have to download Shockwave applets and other pointless eye candy.

This approach might stop a few pages, including *Internet Magazine's* opening page, from working, but good sites have alternative pages which don't hog your valuable and costly bandwidth. And

with more than 130 million sites to choose from who needs the few that don't work? Not us.

You don't usually need to see graphics on Web pages. An average page might have 1k of text, and the smallest button is around 3K. Losing graphics is more effective than any other change you can make.

You can turn graphics off in IE4 from Internet Options/Advanced and in Navigator from Preferences/Advanced, but this is too fussy for day to day use.

For IE4, download IE4 Powertools (which also work with IE5) and install the Toggle Graphics feature. This appears at the end of the largely useless links list.

The contents of links are in Windows/Favourites/Links. You can clear all of them out apart from the Toggle Graphics.exe file. You'll now be flying around the Net, turning graphics on and off with a click. For anyone who wants information rather than images, this single fix will put you in greased lightning mode.

A satisfying extra is to kill ad banners, which for most users manage to combine wasting screen space with wasting bandwidth for the worst of both worlds. So check out www.paradigm.nu/popupsmustdie/killers.htm where you'll find a variety of utilities to kill ads and pop up ad windows. Our favourite is a free utility created by the German corporation

Seimens, called WebWasher, available from www.seimens.com (see the boxout on page 46).

Have you noticed how much faster email attachments download compared to files? This is because the

attachment is held by your ISP and can be delivered to you at full speed.

If the Web pages you want were with your ISP, you'd get faster displays. Good ISPs maintain transparent cache farms to speed downloads of popular pages. In fact, there's now an Internet Web caching standard. Ask your ISP if it maintains a cache farm. If not, ask it for the address of its proxy server and enter it into your browser manually. If it doesn't have either, change your ISP. Caches are a good thing.

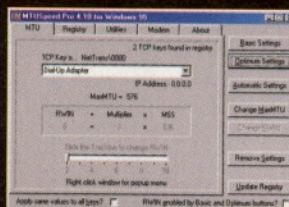
But your browser's local cache isn't always such a good thing. It has to be

★ SPEED TIP ★

MTU Magic

Data packet size is one of those subjects guaranteed to stop conversations at parties. It's not an issue for digital connections such as ISDN, but it has consequences for modem users.

You can be connected to a really fast site but get slow downloads because of line noise. If a data packet is corrupted, it must be resent. The larger the packet size, the bigger the penalty for resends. But the smaller the packet size, the more that have to be sent.



MTUSpeed lets you fiddle with packet size settings to maximise the efficiency and speed of your dial-up modem connection

There's always a most efficient packet size for your line conditions, and it's unlikely to be the default packet size. The optionware (payment is optional) utility, MTUSpeed Pro 4 (www.mjs.u-net.com) will interactively change packet size defaults and let you test them.

It's especially useful for those with ultra clean or extremely noisy lines. The first group can put the packet size up to whatever the line will bear, while the second group can reduce it to minimise the overhead of resending packets. Both will increase the speed of your browsing.



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because in business, communication is imperative

In the first issue

"The circuits across the Atlantic aren't that quick. I don't think any provider's got more than 768kbit/s. The aggregate bandwidth in the commercial world across the Atlantic is certainly no more than a few Mbit/s." How quickly five years pass—current speeds across the Atlantic are now in the region of 45Mbit/s.

searched, and when it's full, something has to be dumped each time you visit a new page. This slows your browser. The solution is to limit the cache size to a handful of megabytes and make sure you clear it out regularly.

Generally, the latest versions of browsers display pages faster than earlier versions, so upgrading is a good idea. On the downside, they're also memory hogs that cause disk swapping, which slows down your PC.

Oddly, one of the fastest Web browsers is also one of the smallest. Opera (www.opera.com) takes up just 1Mb and can even be run from a floppy disk. Not only do pages snap into view, but as it doesn't support most multimedia features, Opera also downloads pages faster. And a great utility called MicroSurfer (www.microsurfer.com) makes this even easier. Just drag links to it and it downloads the linked page to cache while you're reading other pages. Once it's downloaded, clicking the link in MicroSurfer flashes the page on screen.

MicroSurfer increases efficiency further by clearing

the cache each time it starts—making access more efficient. A must-have utility.

Finally, you can use offline browsers, such as WebWacker or MemoWeb, which can download a whole site so you can browse offline. This works

especially well if it's reference material you're after, such as Seagate's hard drive specs or a Perl programming tutorial. This is because you can download when the site is fastest and access it instantly at any time thereafter.

The default version of MSN's page took 16 seconds to download. Killing the ad banner with WebWasher saves two seconds (it adds up) and killing graphics puts the page on display in just six seconds.

Speeding up your PC

Despite Intel's well-advertised claim that the Pentium III offers "performance for a faster Internet," it won't do anything at all to help you beat that all-important Net congestion. The only thing it'll do is provide you with the ability to process multimedia files faster, but you still have to get them off the Net, and that depends on all the factors we've listed above.

You can access the Internet on a 386 computer quite happily, but it might struggle to run the latest versions of Explorer and Netscape, simply because they're so huge. So if you're running an old PC, try browsing the Net using Opera.

All good operating systems let you multitask, so do it. Instead of browsing in one window, open half a dozen. This way, while one of the sites is delivering data at 14 bytes a fortnight, you can check others.

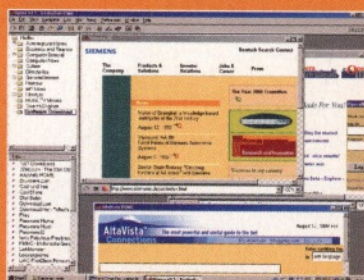
If you work at this technique, you can make sure you're downloading data at full speed all the time.

Finally

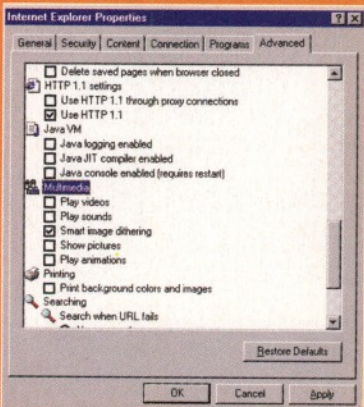
All these techniques and suggestions for improving the speed that data comes from a Web site to your PC will help. But don't fall for the

promises of Web accelerators. They try to download all the links from a page while you read it, making your browsing slower.

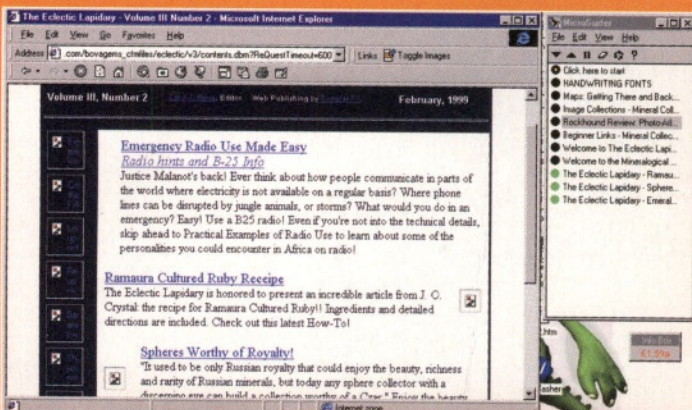
Accelerators won't help you unless you're likely to visit pages, read them carefully and then decide to visit a link to another page. They also make you part of the congestion problem by chewing up bandwidth—including yours—by downloading pages you'll never look at. **im**



Opera is designed for faster Web browsing. It has a tiny memory footprint and supports neat features including. You can toggle graphics in windows independently. It's neat



Stop wasting time on pointless Web page multimedia with a few quick ticks in the Advanced page of IE's Property box



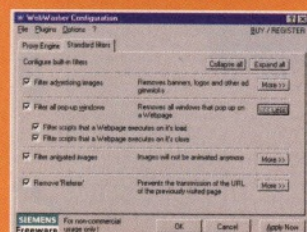
Forget Web accelerators and use MicroSurfer, which lets you drag and drop links to the pages you want downloaded in the background for maximum efficiency

★ SPEED TIP ★

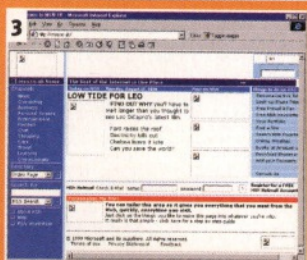
Always upgrade

If you're running Windows 95, upgrade your dial-up networking to DUN 1.2 or 1.3 and your Winsock software to version 2 (visit www.microsoft.com). This fixes a number of bugs, as well as providing more reliable connections. No one seems to know how to get the version number of your current DUN, so you might as well upgrade anyway.

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YOUR INTERNET PRESENCE IS OUR REPUTATION

AHEAD OF THE GAME

Roger Green, managing director, Emap Online

He's acclaimed as one of the most influential people in the Internet industry, spotting the new medium's potential while others dismissed it. He's in the e-commerce hall of fame, and he helped found this very magazine. **Steve Hill** meets Roger Green

Trophies are funny things. If they're not oddly shaped bits of plastic, they're pointless slabs of cut glass. They make good paper weights and they look smart, but that's about it.

One company that knows about winning awards is Emap Online. Its e-commerce sites have won awards from Yell, *New Media Age* and *Revolution*. If the company had a trophy cabinet, it'd be groaning under the weight. It's a credit to the unique way the company does its business.

Emap Online's managing director, Roger Green, has also picked up the odd award himself. In March, *Business Age* featured him in its E-Business Hall Of Fame. In 1997, *Internet Magazine* named Green as one of the 40 most influential people working with the Internet in the UK.

So what has Green done to deserve such acclaim? And why do his staff regard him as a visionary?

The story begins in 1996. The Internet was going mainstream, and Emap (the magazine and newspaper publisher) was looking at ways of exploiting the technology.

Emap's core business was magazines and newspapers, although it had dabbled in TV and radio. Like many companies at that time, it knew the

Net was going to be important, but it needed guidance on how to take advantage of it.

It was also suffering from the paranoia, unique among chief executives

"The Internet is an experimental medium. There are no rules about branding yet."

in the UK's TV and newspaper industry, that the Net could wipe the company out. It needed to act quickly and decisively. Green was on the *Internet Magazine* launch team at the time and was chosen as the person to consult.

He's now widely credited as the man who spotted the potential of new media in a traditional media environment. He told Emap it needed to set up a separate company, to operate on the fringes of Emap publishing. The brief was to explore the creation of online businesses. These would operate completely separately from the company's other print-based media. His proposals were accepted.

Fast forward to 1999, and Green has more than fulfilled his own brief. Among the many sites that Emap Online has produced in three years, »

Photography by Frank Rodgers



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“Design companies were quoting £30,000 for a four-page site about Diana’s burial place.”

three award-winners stand out. They are Bargain Holidays (www.bargainholidays.com), where you can buy last minute holidays online, Aloud.com (www.aloud.com), which sells concert tickets, and What’s On Stage (www.whatsonstage.com), a theatre guide.

“Roger is well-known and respected in the new media industry,” says Carol Dukes, who co-founded Emap Online with Green. “He’s focused and has huge amounts of energy. It’s a credit to him that the Web sites that he produces have been more successful than the magazine-based Web sites that most publishers have.”

Sitting in his office – which looks like it’s been painted to match the set of a Saturday morning kids show – Green appears content. His small team of young staff are also happy because they get to watch pop videos while they work. Green allows it. After all, their latest project is to create an interactive site for The Box (the cable music channel).

Why was Emap Online established?

It was founded three years ago and was the first of such companies to be established by an existing media group. Its brief was to look into ways of exploiting the emerging online medium. Most other magazine publishers were simply putting pages of their magazines online. That’s all very well, but none of those sites offered much in terms of functionality.

Did everyone in Emap support what you were trying to achieve?

The decision to back Emap Online was a major leap of faith for them. The management were highly enthusiastic, but they were also aware that no other media company in the UK was doing anything like it. They believed in my aim of building individual online businesses, but they were concerned about the lack of clear revenue streams.

Surely other publishers had Web sites?

That’s true, but all they were doing was placing their magazine brands online. That’s a perfectly respectable thing to do, but a new medium, such as the Internet, demands a new approach. I was fortunate enough to be given the opportunity to explore

various avenues and create new online businesses.

Do you regard taking existing brands and putting them online as a lazy approach?

No. Emap has people that do that job. The people that create those sites spend much of their time re-engineering magazine content for the online media, and that’s a great skill in itself. At Emap Online, we focus on the medium itself and find new and exciting ways to exploit it. In recent months, some publishers have been following our path into e-commerce, but we’ve been doing it for years.

What was the original brief behind Bargain Holidays?

Bargain Holidays was our first project in July 1997. There were a lot of online services that reflected the needs of Americans going on holiday, but there was nothing for people in the UK and

Europe. The service we offer, a partnership between Emap and Holiday Express, has holidays and flights from nearly 30 UK operators.

Why did you choose to create an e-business around cheap holidays?

The Internet’s an ideal medium to sell products with constantly changing prices to a mass audience. The public is used to getting holiday information electronically from Teletext. But Bargain Holidays is better than Teletext, because it’s bang up to date and it gives the public access to raw price data – something that only travel agents traditionally see. We’re keeping the consumer better informed.

How did you go about creating the site?

We had the idea, built the site and added compelling content. We then partnered with established travel agents to achieve our aims. We now spend most of our time improving awareness of the site within the online community and generating sales.

What kind of traffic is Bargain Holidays attracting?

As you’d expect, it’s highly seasonal. We get around six to eight million page impressions a month. There are so many companies trying to hop on the bandwagon that we don’t want to shout about our profits, but we’re making as much as a medium-sized chain of travel agents.

What were the main problems in setting up the site?

The big problem has been the airline reservation system, because it isn’t designed for public use. We feel we’ve made great strides to improve the friendliness of it all. A lot of people feel they’re experts in the cheap holiday and airline ticket sales business. They think they can come in and create any old Web site. But the margins are low, and there have been notable failures among our rivals.

How do you promote the service?

For all our sites, our attitude is to have a great service that the public can’t get elsewhere. We get a lot of people coming to us by word of mouth. Most of our rivals only have one brand, but we have five. Each brand has similar demographics, so we can act smarter by advertising on our own sites.

What role are brands playing online?

Some companies stick with just one brand, but we decided at an early

stage to hedge our bets. Each of our sites targets a similar audience, but we catch them at different times of the year. By hedging our bets, we've built a more cost-effective business.

Why did you choose Bargain Holidays as the name for the site?

Without stating the obvious, because that's what we offer!

But Deckchair.com doesn't sell deckchairs, it sells cheap flights?

The Internet is an experimental medium and there are no rules about branding yet. When we started Bargain Holidays it seemed sensible to give it a name that described what it was. Other e-commerce sites seemed to have moved away from this philosophy in recent times.

You also created a site for the Althorp estate?

The week after Princess Diana died, we were sitting around the office and thinking we should do something to help. So we created an online advertising banner requesting donations for her memorial fund.

Around this time, a representative for the Spencer family called *Internet Magazine* looking to create a Web site for the Althorp estate. He said design companies were quoting £30,000 for a four-page Web site. When I heard that I felt ashamed to be working in this business and said Emap Online would design a site for nothing.

What was the reaction when the site launched?

In the first week we had incredible traffic – we were getting around 100,000 impressions a day. At the time, it was the most famous Web site in the world. You can still visit the site at www.althorp-house.co.uk.

You also created a site dedicated to the island of Ibiza (www.aloud.com/clubfever). Why?

It's where the kids are! It's functional and ties in well with Bargain Holidays and Aloud.com. We've got dance magazine *Mixmag* supplying weekly news from the island, which has helped to generate traffic and boost sales.

We did a similar thing with our guide to this summer's music festivals. One in five of this year's Glastonbury tickets were bought online at our site.

What makes a good e-commerce site?

One that helps you find what you want and buy it fast. It should also provide

deep and rich content to assist you in planning that purchase.

Is the focus of every Emap Online site on transactions?

The business model for all of our sites is that the biggest chunk of revenue comes from transactions. Revenue from banner advertising on the sites only accounts for a small proportion of the total. The aim is always to create a site that people will want to use. We do this by creating content that'll attract traffic and this'll hopefully get people to spend money.

Will Emap Online sites be available as part of interactive TV services?

We've designed our sites so they're available in a variety of platforms, including interactive television. What's On Stage, our online theatre listings guide, has been developed for Windows CE. There's even a special version available for users of the Nokia Communicator.

Bargain Holidays is available for users of the 3Com Palm Pilot, which seems to be a more popular platform than Windows CE now. Once you've created the site, it's easy to adapt it.

Have you been working with any cable networks?

We've been working with Cable & Wireless. NTL has been using Bargain Holidays as part of its demonstration of interactive TV.

Were you pleased that NTL bought the consumer division of Cable & Wireless?

It's good that the cable industry is consolidating because the systems that each network uses are slightly different. If you want to reach the widest possible audience, interactive TV is definitely the way forward.

What problems do you face when creating sites for interactive TV?

Many years ago, we were involved with something called Net Channel [a primitive service that put the Net on a traditional TV set]. It became clear that you could only read straightforward pieces of information from your armchair. The interactive TV companies have yet to come up with a proper solution to this.

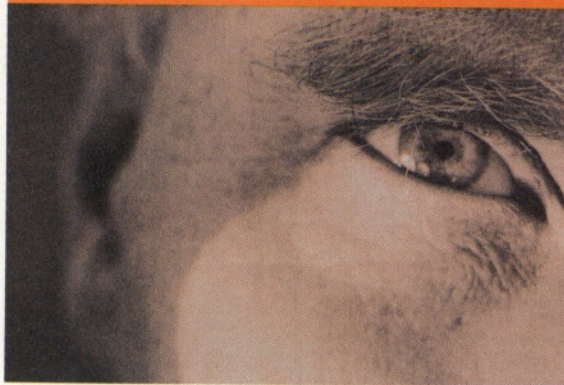
Are there any Web sites you wish you'd created?

Yes, but I'm not going to give them any publicity.

Curriculum Vitae

- Born 1952
- 1974 Graduated from Glasgow University
- 1976 Joined *Computing* as a Staff Writer
- 1982 Founded *PC User*, Europe's first publication about IBM-compatible PCs at Emap
- 1992 Founded *Lan Magazine*
- 1994 Founded *Internet Magazine*
- 1997 Founded Emap Online as part of Emap

As a writer and commentator on technology, his work has appeared in *The Guardian*, *The Times*, *Daily Telegraph* and *The Observer*, as well as local, national and trade newspapers.



Carol Dukes [Green's sidekick in the early days of Emap Online] went to join Carlton Online and created Jamba. What did you think of that site?

Originally, I told her Jamba was a terrible idea. It's just entertainment and I don't think the Net, in the long term, is the best medium for pure entertainment. But Jamba was an original idea and it's done well.


How do you judge your team's success?

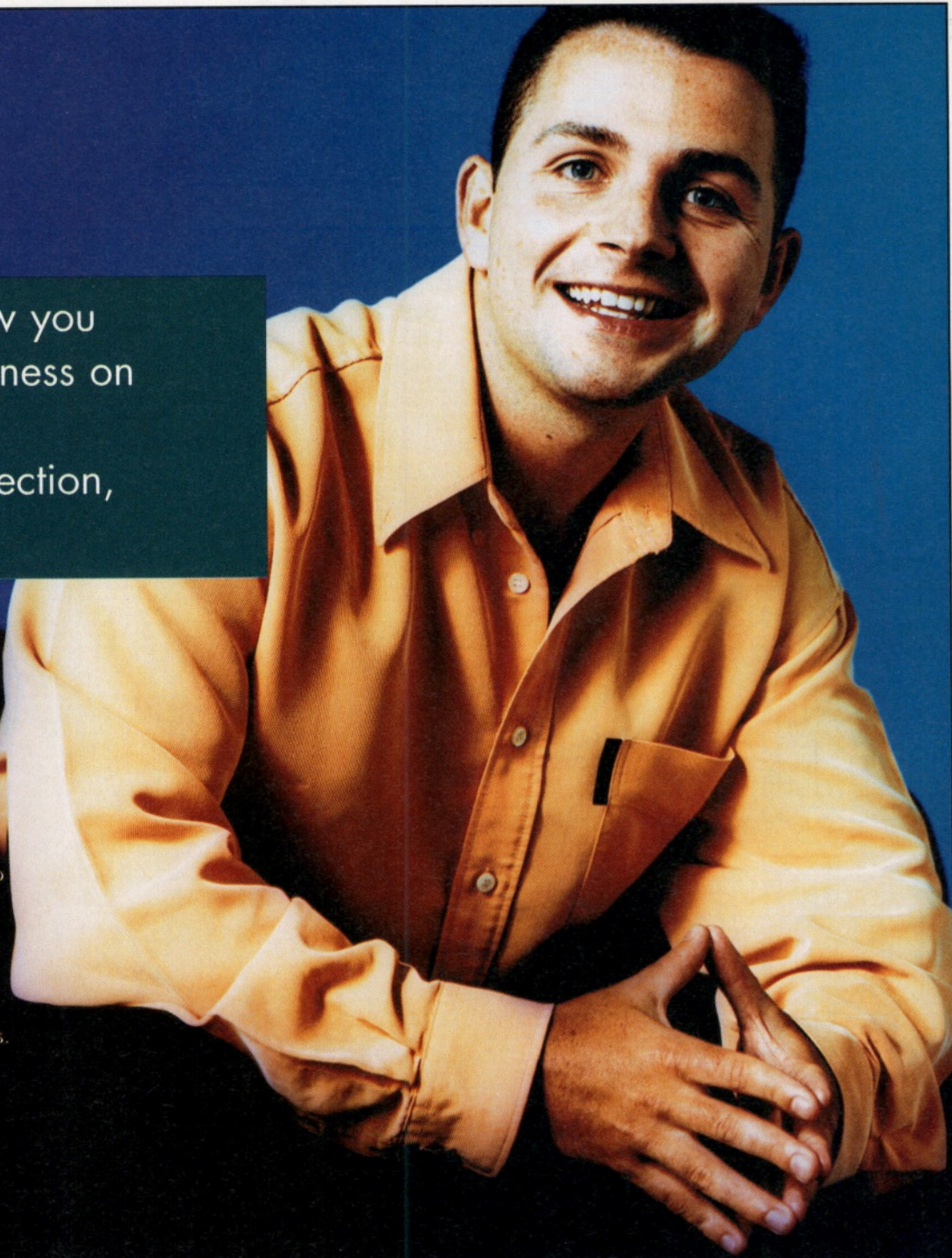
The project I'm most proud of is always the newest and youngest. With each of our sites we've achieved things that haven't been done before.

“The project I'm most proud of is always the newest and youngest.”

It's not just about awards, although they're great. We've created profitable e-commerce sites and achieved things against the combined resources of much wealthier companies – some of which are funded with public money. The trick is to continue our success, because it's getting increasingly competitive.

What new e-businesses would you like to be developing?

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Who wants to be a millionaire?

Since the flotation of Freeserve, every UK Internet company wants a piece of the action. But are Net shares really worth buying? **Justin Hunt** sticks a pin into the stock market bubble to see if it bursts

"Having .com after your name is no longer a guarantee of success."

The Internet is becoming the new King Midas. Everything it touches seems to turn to gold. In case you're doubting its ability, here are a few examples. Freeserve began as a straightforward idea to offer free access to the Web. Now it's floated on the stock market and the company's worth a jaw-dropping £2 billion.

In April 1994, in his spare time, a young student called David Filo began creating a Web directory of his favourite sites. Just as a hobby, nothing too serious. Now, as the co-founder of Yahoo!, he's worth an astonishing £325 million.

The Net is full of these logic-defying, rags to riches stories. Here's another one to make you green with envy. In 1988, Sabeer Bhatia arrived in the US from India and got a job with Apple Computers.

In 1996, Bhatia co-founded a Web-based email service, known as Hotmail, with Apple colleague Jack Smith. The new service caught the attention of Bill Gates and he came banging on Bhatia's door. Bhatia hesitated at first, but the offer went up and he decided to sell. He exchanged ownership of Hotmail for 2,769,148 Microsoft shares, worth an incredible £260 million in January 1998.

Despite the number of Internet companies rushing to the stock market, some commentators are beginning to question whether the Web is worth all the money it's attracting. After all, Freeserve is still losing money. So is the Internet gold rush over? Have you missed your chance? Or can you still make a Net fortune?

Phil Halliday is editor of FT.com's summaries team, which produces a daily report about what's happening in the markets. We called him to ask if the Internet bubble had burst.

"Some of the sparkle's gone out of it," he says. "Investors are becoming more sophisticated – they're not buying shares in companies just because they're Internet start-ups. We're seeing Wall Street issues that aren't rising on day one."

Several flotations of hi-tech companies in the US have already been postponed. Having .com after your name is no longer a guarantee of success. "People are becoming more selective," says Halliday. "Each investor only has a certain amount of money to invest."

There's a volatility in the market – has the Internet become unattractive? "We've never seen anything like the Internet in the market before," admits Halliday. "But it's far too early to say the love affair is over."

The future of the Internet hangs on the fortunes of e-commerce, and many investors are placing bets on who they think is best placed to reap the benefits of online shopping.

Themutual.net is giving away more than 50 per cent of its shares to registered users. Another ISP, Blue Carrots, is handing over 80 per cent of its equity to regular browsers. They're doing this to consolidate their customer bases to attract more advertising. They're also hoping their shareholders will become the backbone of any e-commerce services they introduce.

Making money

Successful crystal ball gazing is one of the keys to making money from the Internet. You have to spot the emerging companies early on and back them at the best price. One of the legendary players in the Internet investment market is the US-based Munder Capital Management team.

In 1996, this team launched the US-based Munder NetNet fund. Today it's valued at more than £550 million. It's one of the most successful and largest Internet investment operations in the world. These guys know what they're doing. If anyone can tell you how to become an Internet millionaire they can.

In May, the Munder team helped set up a UK Internet investment fund, called NetNet, with the City-based Framlington Group. This new fund is already worth more than £50 million – and you can still invest in it for as little as £50 a month, either through a unit trust or an ISA.

About 40 per cent of the new NetNet fund is invested in pure Internet companies, such as Amazon, Yahoo! and eBay. The remainder is safely tucked away in companies such as Microsoft, Intel and Oracle.

Munder's fund manager, Christopher Bell, is one of the most powerful Internet investors in the UK. New Internet companies approach him every day for backing and he meets wannabe Internet millionaires all the time. So what does he look for and how does he decide who to back?

"Fundamentally we look at the management team," he says. "A lot of these Internet

In the first issue

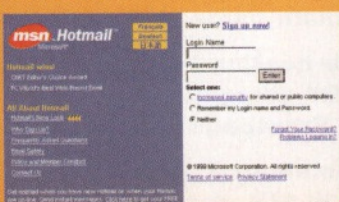
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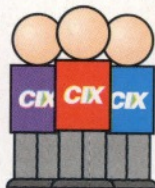
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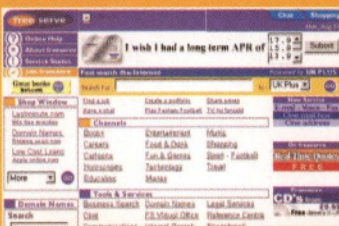
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Freeserve



Dixon's Freeserve might be losing money, but it floated and is now worth £2 billion.

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businesses are run by small teams and they have to be in control of the business.”

Before he gets his pen out and signs any cheques, he also assesses the quality of the business idea and the nature of the intended market.

Tracking the performance of Internet companies is Bell's job. He keeps his eye on all the new entrants and the established players. He's following Freeserve carefully.

“Freeserve has to shift the focus away from its free Internet access side and move towards becoming a portal site with agreements with content partners,” he says. He thinks the future of Freeserve will turn on its ability to get people shopping online with the company. The advantage it has now is it can buy companies with the capital raised, without having to keep starting from scratch.

But what about the small investor? How can we turn our hard-earned cash into a fortune? If we don't have time to run global Net businesses, can we at least share their profits? Remember, this sort of advice doesn't normally come this cheap.

“The Internet market is so volatile – you can have three or four swings in a day. I think the small investor should take a five or 10 year investment approach,” he says. “It's the long-term Internet investments that'll make you the most money. You should put about five per cent of your savings into the Internet.”

Conscious that he's about to dart off to another meeting to see another management team after his backing, I put the big question to him. What's the best way to become an Internet millionaire? I'm listening to his every word. After all, if he doesn't know, who does?

“One of the big areas is going to be the business to business market,” he says, slowly. “People are getting excited about the potential for businesses to trade with each other over the Internet. If you get your product right in the business to business market, you'll be in a strong position.”

One of the key facts about the Internet industry is that it moves so rapidly. Tipped as one of Europe's hottest Internet-start ups, an Oxford-based company called Mondus.com has already come up with a highly attractive business to business model for the Internet.

Aimed at the smaller business, Mondus.com lets companies buy their computer supplies, office equipment, printing and courier services over the Internet. Companies place an order for free at Mondus.com's Web site and suppliers can bid online for the contract. The purchasing company can then decide which supplier to go with.

The purchasing company pays the site owners nothing. But the successful supplier has to pay Mondus.com a small commission on the overall value of the contract. It's a fantastically simple idea. The whole contracting process will become faster and cheaper.

Mondus.com has already got more than 5,000 suppliers and buyers on its database. Venture capitalist, Eden, has invested about £7.5 million in the company. From a small outfit in Oxford at the start of the year, it's now opening offices in Hamburg and New York. They've hired a New York team, and a flotation is not completely off the cards.

Talking to the founders, you get a real flavour of the excitement of being an Internet entrepreneur. It's infectious.

“We feel very excited,” says the chief executive for Europe, Rouzbeh Pirouz. “There's a tremendous sense of adrenaline in the business, because things are moving quickly. We really have to go at full throttle.”

Just before he sprints off to make his Web millions, I ask him if he's at all worried about reports of the Internet bubble bursting. Is he confident that e-commerce will take off and justify the huge sums of money that the Internet's generating?

“I'm confident,” he says. “I think the Internet will completely redefine the way people do business. The Internet is a tool of empowerment for smaller and medium-sized companies.”

The pace is exhausting. I need a break. Some light relief. I've been sent some information on a Web site called Motley Fool (www.fool.com). It's an online guide to investing. Not just investing in Internet companies, but all types of investing, and it highlights a growing trend. The Internet is offering to put more people in control of their finances, providing all sorts of well presented information.

So can Motley Fool help transform your bank balance? Is this the kind of site where wannabe Internet millionaires hang out? A spokesman for the company explains the

10 tips for success with Internet shares

- 1 Take a long term view, don't go for a quick return.
- 2 Put some of your money into the safer, more established names, such as Microsoft, Amazon and Yahoo!
- 3 Make sure you understand the Internet business you're investing in. Find out what it's doing.
- 4 Take advantage of the Net's resources. Build up your knowledge of what's going on in the market.
- 5 Spread your investments. Investing in one company can be risky and could leave you exposed.
- 6 Net shares are a gamble. Only bet money you can afford to lose.
- 7 Before you invest, get a second opinion from a broker or an independent financial adviser.
- 8 Remember – just because a company is an Internet start-up company, it doesn't mean it'll automatically be a success.
- 9 Find out if your bank offers online banking with any special rates of interest, so you can build your savings more quickly and have more to invest.
- 10 Keep your eye out for offers of free shares from ISPs or Internet start-up companies. You could still snap up stocks in the Yahoo! of the future.

name was taken from the fool in Shakespeare's play, *As You Like It*.

"The fool can tell the king the truth without getting his head lopped off. There's a lot of mystery and jargon in personal finance. We're the fool of the financial world," he says.

So what's Motley Fool's tip for hot Internet stock? "Understand the business," says the spokesman. "Only invest when you understand what they're doing." Sensible advice for a fool. One of the hottest stocks at the moment is Red Hat, which was recently launched on the Nasdaq Stock Exchange. Everyone knows what Red Hat is doing. It's trying to break into the market dominated by Microsoft's Windows. Red Hat distributes the fast-growing Linux operating system, offering manuals and technical support.

So if you spot a hot Net stock like Red Hat, how do you trade in the shares? Before you call up your traditional broker, you might want to consider registering with one of the new online trading services. Setting up a trading account is simple. Registering on the firm's Web site, fill out a few forms, and you're off. You can start wheeling and dealing with the best City whiz kids.

Chief executive of E*TRADE, Julian Costley, talks to me on his mobile on his way to a meeting. He's certain that online investing will take off. There are already 12 million private investors in the UK and he says only a small percentage need to go online to help create a new market.

"Investors want lots of powerful unabridged information at their fingertips, and help as they research the markets. And, when they go for the best deal, they want to time their trade to the second and know the deal is done," he says.

E*TRADE gives you lots of market information. Once you've done a deal, the proceeds go straight back into your account for re-investment. For any trade above £1,500, you pay E*TRADE a commission of £14.95. Loyal traders get discounts.

If there's a sharp downturn in Internet stocks, you can always get straight onto your PC and sell, says Costley, rather than trying for ages to get through to your broker on the phone.

And his tip for becoming an online fat cat? "Create a really good idea and make yourself a nuisance to some boring, flabby, middle-aged company and it's bound to want to buy you."

When Net Benefit, provider of domain names, floated on AIM (the UK's junior stock market), it found plenty of investors ready to buy into its stock, and it raised £4.6 million. When Gameplay.com floated on AIM, its 25 year old director, Dylan Wilk, became a multi-millionaire. Despite what some sceptics are saying, the Internet looks like it's going to create plenty more millionaires. Overall, the bubble is still in pretty good shape.

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"The Internet is a tool for empowerment"

Disclaimer: Internet Magazine would like to point out that the above feature should be used for entertainment purposes only. Internet shares are a big gamble and you should only invest money that you can afford to lose. Always take advice from a broker or an independent financial advisor. That said, to anyone who does become a Net millionaire, just remember which magazine gave you the advice!

Top millionaire sites

Talk To A Millionaire

If you want to be a millionaire, why not talk to one? This site invites you to pitch your proposals to investors online. "Whether you run a major American motion picture studio or a company in Russia which rents Mig-29 fighters by the hour, everyone is welcome," say the site owners. Key advertisers on the home page include Ferrari and Rolls Royce. You can almost smell the crisp bank notes.
www.talktoamillionaire.com

Motley Fool

Learn to invest the Foolish way. Not as silly as it sounds. The Motley Fool site is modelled on the tradition of Shakespeare's fools who were bold enough to stand up to the king and tell him the truth.



Cuts through the jargon. Have fun and swap investment ideas on the Foolish boards.
www.fool.co.uk

Framlington's NetNet Fund

The Framlington Group has launched the highly tempting NetNet Fund. You can invest via an ISA (which helps you avoid capital gains tax) or a unit trust in Internet and Internet-related companies. Small investors are welcome. Minimum contributions to the unit trust start at £50 a month. Your chance to join the digital gold rush.
www.framlington-netnet.com



TheStreet.com

Financial reports and analysis published online to help you pick the Internet start up winners. "The closest you'll get to Wall Street...without a hidden camera," says Fortune magazine. And they should know.
www.thestreet.com

The Internet Analyst

The Internet Analyst site gives you the low down on internet companies. Financial data aplenty here including strong reasons to buy

certain stocks. Likely to be a lot more reliable and in the know than your stuffy traditional financial adviser.
www.theinternetanalyst.com

FT Quicken

No self-respecting Internet millionaire ignores the FT, the stalwart of the financial world. This site is crammed with valuable nuggets of information about personal finance. Discover how to get the best mortgage deals and check out the tax centre to see how you can save on your taxes.
www.ftquicken.co.uk

This Is Money

The Daily Mail, Mail on Sunday and The Evening Standard have pooled their resources to provide a useful and clear site to help make your cash go further. Check



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www.thisismoney.com

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PC? You can deal commission-free with Charles Schwab for 30 days. Then it's £19.50 per trade if you open a frequent traders account. Market summaries are updated every 20 minutes and an online demonstration is available. Be careful, though – it could bring out the Nick Leeson in you.
www.schwab-worldwide.com

Barclays Stockbrokers

The Barclays online trading site is an excellent advisory service. It

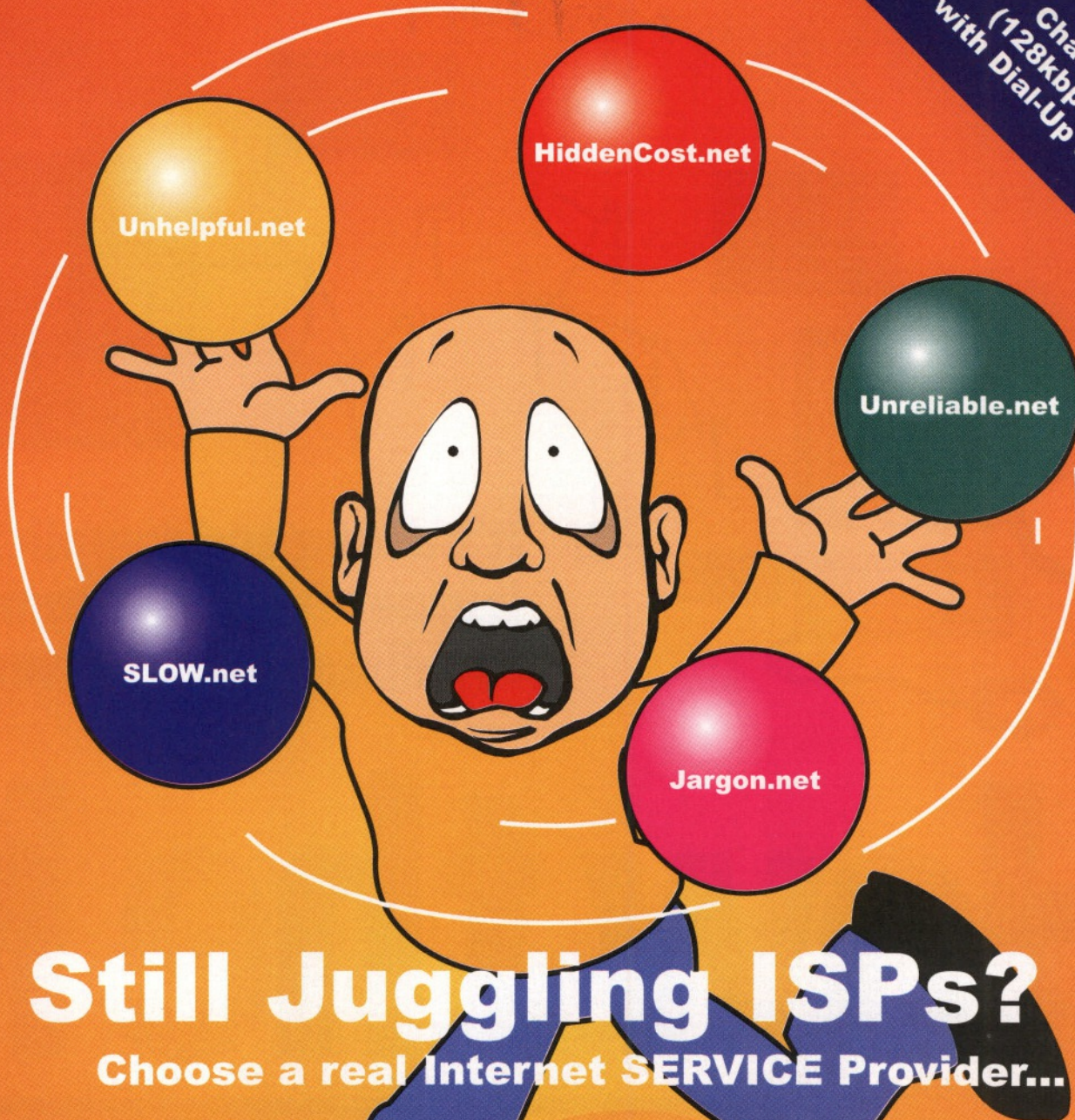


has a useful, slick-looking section on new issues. Commission on Internet deals is charged at 1.5 per cent for the first £5,000. This is the future of trading.
www.barclays-stockbrokers.co.uk

E*TRADE

Encourages you to research the market, 'stalk' your target stock and then 'pounce'. Afterwards, E*TRADE says you should 'savour your kill'. This site will appeal to all modern day Gordon Gekkos. E*TRADE charges £14.95 per trade for any trade worth £1,500 or below. Not a site for the faint-hearted investor.
www.etrade.co.uk

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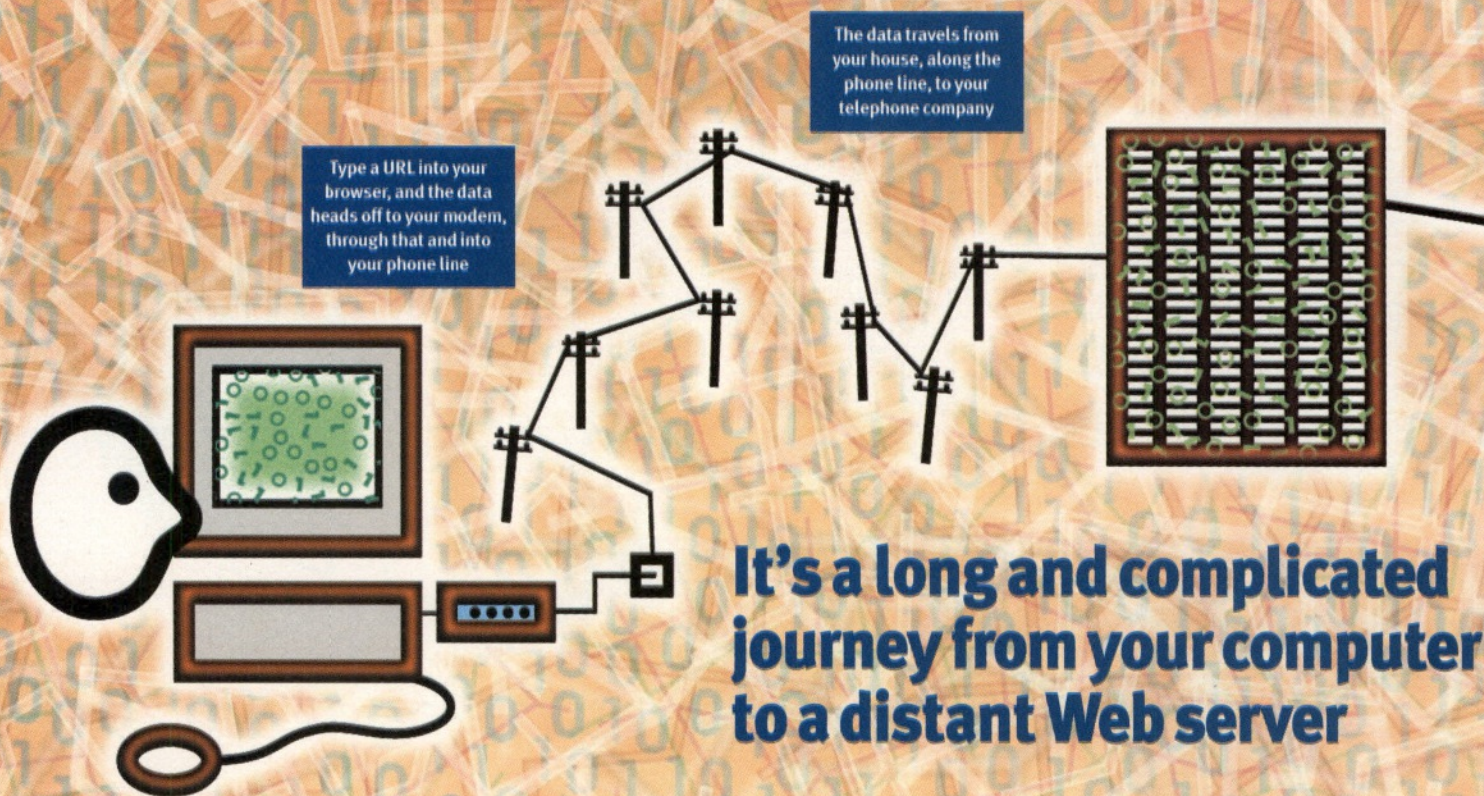
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It's a long and complicated journey from your computer to a distant Web server

How the N

Most of the time we treat the Internet as a magic box. You launch your browser, enter a URL and – hey presto! – a Web page appears on your screen. But how does it work? How many sprockets and widgets are inside, and what do they do? Where are the pistons?

We'll tell you exactly what happens when you connect to your ISP and watch a Web page appear on your screen. Next time something goes wrong, you'll be able to understand what's happening beyond your browser. Prepare to be impressed, but you must promise not to use this precious knowledge to frighten others.

Dial-up

Let's start with connecting to your ISP. When you request a connection to the Net, your modem calls the dial-up number and a modem at your ISP answers this call (you hope). If you have your speaker switched on, you'll hear the pair of them screeching and squawking at each other like deranged seagulls, until they reach some sort of calm agreement and the noise stops.

This process is called handshaking (or training) – the modems are establishing speed, compression and error

If you're starting to think the Internet is a piece of cake, you're ready to know about how it really works. Andrew Starling takes you beyond your browser to show you exactly what happens when you request a Web page

connection features they're both able to support. Translated into English, their conversation would go something like this:

Your modem "Can I connect to you at 56kbps using the V90 protocol?"

ISP modem "Sorry, never heard of that one, but I can offer you k56flex. Is that OK?"

Your modem "No, that sounds a bit weird to me. Shall we just drop down to V34 protocol?"

ISP modem "OK, let's do that. Your top speed will be 33.6kbps. Are you up to that?"

Your modem "That's fine. Now let's look at error correction. Do you understand V42 bis correction?"

ISP modem "Never heard of it. How about MNP?"

Your modem "Yes, I can deal with that. What level MNP?"

Once they're happy with their settings, your modem passes the connection to your computer and the ISP's modem passes the connection to its network. You're almost on the Internet, but not quite. The ISP's computer network demands your username and password. It then checks these details and gives you a connection.

You're now on the Internet, and the first thing your computer needs is an IP address. This is a unique number that identifies your computer to other machines on the Internet. It's the equivalent of your telephone number.

An IP address is a series of numbers, such as 137.132.6.40. Everybody using the Internet has an IP address. ISPs hold blocks of these numbers and send them to you when you (as a customer) request an Internet connection.

Once your computer has received its IP address, it asks for

The journey from your telco to your ISP's telco will vary depending on which companies you're using

Here we are at your ISP. Your request comes through its modem into its server, which queries a domain name server for the site's real name before letting your request move on

Next stop, your ISP's backbone provider

Your connection is then taken through a series of routers. The number of routers, and route taken through them, varies

et works

A lot of the time, you'll be requesting a site from abroad, so your data leaves the country by subsea cable

At last, the Web server you wanted. Now let's hope this was the site you were after. If not, start again from the beginning

You're now in the same country as the Web server you're after, but first there's another trip through some routers

The Progression of Man



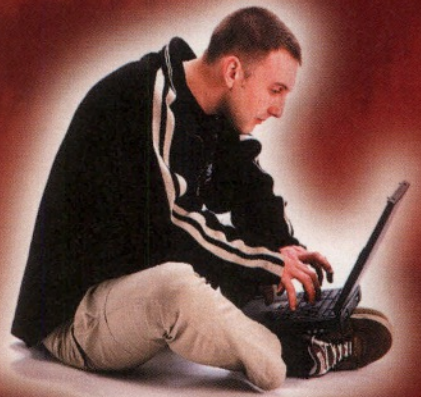
ape



neanderthal man



man



colin@webtribe.net

Colin has a lot to thank his ancestors for. Millions of years of evolution has seen them walking, talking and making friends - shaping the man he is today.

Colin now feels that these skills are overrated, compared to his new-found ability to access the outside world since joining WebTribe.

Colin would like you to join him. Simply initiate yourself at www.webtribe.net

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Initiate yourself at www.webtribe.net

your starting page from the World Wide Web.

Finding your page

Let's assume your opening page is www.yahoo.co.uk.

Your computer sends a request to Yahoo! asking for the page. It's going to send this request as a series of packets, but it has to sort out exactly where to send this request. It's not as simple as sending it straight to www.yahoo.co.uk – there's another step to go through first.

As mentioned before, everything on the Internet – computers and servers (where Web sites are stored) – has an IP address. These addresses correspond to a single domain name. For instance, the IP address for the domain www.yahoo.co.uk is 195.67.49.54.

The domain name and IP address are precisely related. Computers don't want to deal with the letters that make up URLs, but they're more user-friendly for humans. Computers demand instead that the numeric version – the

to my computer". Attached to the message is a header that shows the address of the destination and of the sender (your computer). It's the equivalent of a mailing label on a parcel.

Messages are usually split up into small segments called packets, but we'll assume that this message is so short it's a single packet.

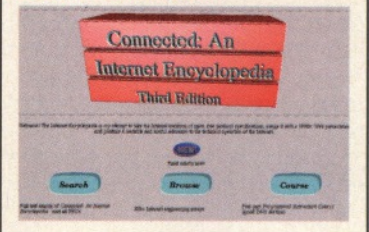
This single packet sets off on a glorious adventure through the Internet. The first leg of its journey is down the telephone line to your ISP's modem. The second leg is along a leased line from your ISP to its backbone provider (also known as its network service provider or upstream provider).

In many cases, the ISP and the backbone provider are separate companies. The backbone provider supplies the ISP with its network Internet connection as a commercial service. Specialist backbone providers include Planet Online, backbone for Freeserve and others (pictured below), NTL (behind Virgin) and Wispire.

Keeping it simple

● Many of these procedures are simplified versions of a complicated reality. We've also dropped some of the jargon – expressions like internetworking, Points of Presence and Network Access Points. For the sake of clarity, we've completely ignored caching (pages held in local memory on your computer or by your ISP) and skipped a lot of network details. This is just an introduction to how the Internet works. If you want more details, try An Internet Encyclopedia at

<http://freesoft.org/CIE>



IP address – is used for all Internet transactions.

This means every URL must be converted into an IP address before the Internet can deal with it. A DNS (Domain Name System) server does the conversion.

Your computer needs to find out the IP address for www.yahoo.co.uk, so it contacts a DNS server at this stage and pops the question. The DNS server has up to date details matching URLs with IP addresses. It checks its records and sends the correct details back to your machine. DNS servers are usually located at your ISP.

Please get in touch

Your computer sends a request to this IP address for Yahoo!'s opening page. It's a simple request, along the lines of "Please send your opening page back

Some companies are combined ISPs and backbone providers. Well-known examples include BT, Cable & Wireless, Demon, Easynet and UUNet (Pipex Dial).

If you're confused about the difference between an ISP and a backbone provider, think of ISPs as the companies that run the modems you connect to – the retail end of the business. And think of backbone providers as the companies with major league connections to the Internet – the wholesalers.

There's a third group of companies crucial to the Internet – the telcos. They run the telephone lines and fibre-optic cables that connect everyone.

Your connection to your ISP probably runs on an analog telephone line owned by a telco, such as BT. The rest of the lines – between the ISP and backbone provider, for instance – are »

Behind the scenes: Planet Online is the backbone provider for several ISPs, including Freeserve. It's packed full of row upon row of Web servers holding millions of pages

The science bit

● To fully understand IP addresses and the meaning of the individual numbers, you need plenty of time and a strong interest in mathematics. Try Understanding IP Addressing: Everything You Ever Wanted to Know at www.3com.com/nsc/501302.html. The numbers at the front of an IP address identifies the big international networks and the numbers at the end identify the individual client machines on smaller networks.

Each time you dial up to your ISP, you'll be allocated a different address. This is called dynamic addressing. You can get more information about the allocation of IP addresses to ISPs at [ftp://rs.internic.net/policy/internic/internic-ip-1.txt](http://rs.internic.net/policy/internic/internic-ip-1.txt).

How the Net works

high-capacity, fibre-optic cables carrying messages as digital light. These are also run by the telcos.

When your packet reaches the backbone provider, its adventure begins in earnest. Here it meets its first important router.

Routers are the air-traffic controllers of the Internet. The packet will have already passed through a router when it travelled through the ISP to the backbone provider.

But routers become more important at the backbone stage. They read the destination IP address in the packet's header, and decide where to send it next. To do this they refer to routing tables, which show the relationship between an IP address and a location. Routers see the world as one big electronic network, nothing more, so they think in terms of network locations.

A router only keeps in contact with other routers it's directly connected to – it only maintains routing tables for these machines. Using this knowledge it decides where to send the packet next. Most of the time it makes this decision without knowing the packet's final destination. It only reads enough of the IP address to realise that it needs

Routing for beginners

● If you've looked into IP addresses, and the mathematics didn't confuse you, try investigating how routers work. It's a science in itself. A good starting point is the Introduction to Routing Protocols at www.cisco.com/cpress/cc/td/cpress/fund/iprf/ip2907.htm



What's in your packet?

● Packets come in many sizes. It's rare for them to be larger than two kilobytes, and most are less than 500 bytes, but there's no typical size. Legs of the Internet are less tolerant of large packets than others, and these legs might fragment the packets to smaller sizes during their journey.



“Telecoms cables under the sea are the Internet's arteries.”

to forward the packet on. If the packet's going to a distant location, the router forwards it to another machine that it knows is closer.

This might sound vague, but the process offers flexibility. Routers vary in intelligence and many of them know alternative routes to choose when the favoured route isn't working effectively. They're in constant communication with each other. If one of them breaks down, its neighbours will negotiate with other routers for replacement paths.

This flexibility is the Internet's great strength. Most communications systems, including old-fashioned phone exchanges, know exactly what route will be taken through their network. If any part of that route breaks down, the connection fails. But not the Internet. It was originally designed for military use – if an enemy bomb destroyed part of the network, the rest would still work.

Need to know basis

● You might hear people talk about TCP as a connection protocol and IP as a connectionless protocol – ignore them. They're either showing off or they're network managers talking shop. The rest of us don't need to know about this kind of stuff.

Taking an extreme example, if the sea floor beneath the Atlantic suddenly shifted and broke all the transatlantic telecoms cables, you'd still get through to a New York site on the Internet, but you'd have travelled via the Middle East, Japan (or Australia) and San Francisco. Half the world's population might have died in the tidal wave, but the Internet would still work.

Underwater world

Let's go back to your packet. The router at the backbone provider reads the IP address for Yahoo!. It sees that the packet needs to be forwarded to a distant location. From its routing tables it selects a router that can deal with this location, and forwards the packet.

This particular router is suitable because it's close to a cable that runs under the sea to Scandinavia, and the server for the UK Yahoo! site is in Stockholm, Sweden.

At this stage, none of the routers know the precise details of the final destination. They simply know they've got to shift the packet along the line in the right direction.

After a four or five hops (the term for moving from router to router), the packet reaches the cable termination point and travels beneath the sea to Sweden. If routers are the multiple

hearts of the Internet, then telecoms cables under the sea are its arteries – certainly for an island nation such as Britain.

Once it reaches dry land, your packet goes through yet another router. By now it's getting close to its final destination, so the routers have to inspect the IP address in more detail. Web page servers are always on a network associated with a specific router, and eventually the packet reaches the router that's associated with www.yahoo.co.uk. The router recognises the destination address is on its own network and sends the packet to the Yahoo! Web server.

The server unwraps the packet and reads the message inside, which asks for the main Yahoo! page. It finds the page on its hard drives and prepares to send the data (an HTML page and four GIF pictures) back to your computer.

All this data needs to be split into packets to be transferred back to you. The total number of bytes to be transferred from the Yahoo! server might be 21k, and this could finish up as 80 packets. The number of packets needed for a larger item, such as a game downloaded from a Web site, could run into the thousands.

As they're being prepared for sending, the packets from Yahoo! are given your IP address in their headers as the destination. You've probably heard of TCP/IP, and it's the IP (Internet Protocol) layer of TCP/IP that deals with addressing issues. The TCP (Transmission Control Protocol) layer is responsible for breaking down files into packets and reassembling them at the other end – your computer.

The Yahoo! server now sends the packets to your computer. In theory, they could all reach you by different routes – there's no fixed path, so they're forced to follow through the Internet routers. But they'll usually follow the same route because it's the best path available at the time. If you make the same page request a few days or weeks later, the packets might come via a different route.

When the packets arrive at your computer, they're unwrapped and reassembled into the original HTML and GIF files. It doesn't matter if the packets arrive in the wrong order – TCP will deal with that. It's not even a big deal if a few packets get lost – your computer will simply send a separate request for the missing bits to be re-sent to you.

As the files are reassembled by TCP, they're sent to your browser, which recognises the file types and works out how they should be displayed. Yahoo!'s opening page begins to appear on your screen. Hey presto! The magic box has done its work. And in the space of a few seconds you've just been on a round trip to Sweden.



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The all-new internet magazine online

After months of planning, Britain's most popular Internet magazine – that's us – is ready to unveil its brand new Web site. **Richard Dinnick** goes behind the scenes with designers Flg 21

Those who can, do. Those who can't, either teach or become a critic. Or so they say. We've taken that maxim and turned it on its head. At *Internet Magazine* we're dedicated to reviewing and rating Web sites, whether they're professional ventures or personal hobbies. We apportion scorn or praise where we believe it's deserved.

But what of our own Web site? Way back in May we announced that we'd launched the ultimate Web design challenge – to redesign the *Internet Magazine* site. After an exhaustive process of discussion, emails, concept designs and judging, we chose the team at Flg21 (www.flg21.com) to take our site into the 21st century. Now the time

has come to unveil the site.

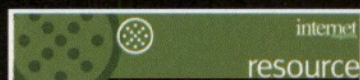
It's taken three months to reach this point. We've worked hand in hand with Flg21's MD Daryn Forster, its technical director Guy Redwood, and account manager Louise Field, to create the cleanest design possible. We knew we had to use all the criteria we use to review other people's sites. After all, if a group of film critics made a film, they'd want it to be pretty darn good.

With the clean design and clear navigation in place, we also had to take into account the new look of the magazine. Aspects such as the colour-coded sections, the icons denoting these sections, the magazine's trademark red URLs, and its curved key lines, were all incorporated by Flg21 so

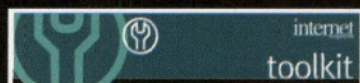
the Web site reflected, but didn't imitate, the publication.

"The opportunities are huge for *Internet Magazine* to take a significant lead and steal the initiative in a variety of specialist areas," says Forster. "The site has to compete with some visually stunning and technically excellent competition. But as the industry's mouthpiece, you're expected to hold your head up on both counts."

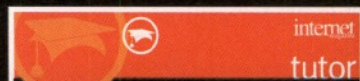
So we now have a splash page that kicks off the site with a great animation, showcasing the art of Web design. This will change periodically to give different companies a chance to display their animation prowess. But if you want to go straight to the news, technology, advice and site reviews, there's a



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Internet Recruitment has everything you need to know about looking for or placing a job advert on the Web



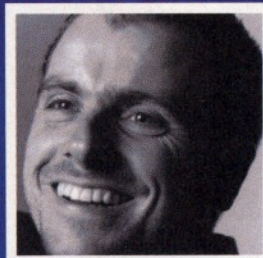
Publication Information has a range of data from contact details of the editorial team to advertising page rates

FLG21 DESIGN PROFILE

Flg21 is a Leeds-based Internet and multimedia company which provides online solutions to clients in a variety of industries around the world. Clients include Baan, Clifford Chance, Slazenger, Ferrari Owners Club, Ideal-Standard, PA Consulting and Slush Puppie. Flg21 aims to adopt a long-term strategic approach for all clients, working to fully realise their investments within the Internet.



DARYN FORSTER



Daryn Forster formed Avenir Communications, the holding company for Flg21, in 1996. His boundless enthusiasm and extensive knowledge has gained Flg21 an impressive portfolio of clients. Before Avenir Communications, Daryn formed two successful design agencies. His first experience of the Net was in 1994 when he worked with BT on a Web-related project.

GUY REDWOOD



Guy Redwood was one of the founder members of Flg21 in 1996. He's part of the latest breed of new media IT people who have a full understanding of all aspects of new media – from marketing and design to customer relationship management and new media strategy. As technical director of Flg21, Guy manages a team of talented technical individuals.

separate button to take you straight into the site.

You'll find a crisp and colourful start page with the latest Internet industry news. Our own newsroom updates this section at least once a day, and there's a constant news feed from the Press Association (www.pa.press.net).

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Head for Internet Toolkit if you want to get hold of any downloads we've featured in the magazine, including the hottest software available on the Net. You'll also find links to the best download sites on the Web.

Complementing the printed magazine will be Internet Resource, where you can read older features for free. And don't miss the essential guide to what to do now you're online. You'll also be able to buy more recent features from *Internet Magazine* in PDF format.

Internet Bookmarks is your guide to the best sites on the Web. Every day we're suggesting at least one new site

worth visiting, and we'll give you an essential viewing list every month. There are spotlights on key interests and technologies, as well as our Site of the Month and Wild, Wild Web features.

“We knew we had to apply the criteria we use to judge other sites.”

You'll also find a comprehensive list of sites covering every aspect of life on the Internet, from birth to death and everything in between. Just in time for Christmas is our indispensable guide to shopping online. Also in the Bookmarks section is Internet Recruitment – an exhaustive look at the task of finding or advertising a job online.

The *Internet Magazine* team is featured in Publication Information, along with our email and telephone numbers. If you want to delve deeper, you'll find our own home pages, our favourite sites and even our mug shots. Visit the subscription page to take

advantage of special offers, or check out the magazine's advertising details.

This is just the beginning – it's the first phase that'll make the *Internet*

Magazine site a practical, authoritative and stimulating resource for anyone using the Internet. And, naturally, we look forward to your feedback, both good and bad.

Next month we'll be going behind the scenes at *Internet Magazine* online and looking at the hosting of the new site. You'll also find out about the software that Flg21 used in its development

www.internet-magazine.com



**something
missing ?**



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Tricks of the trade

Creating a successful e-business involves a lot of hard work, and people aren't keen to share the secrets of their success. But don't despair, **Steve Hill** has quizzed the e-commerce experts, and brings you their top tips for sites that'll succeed – and make you a packet in the process

PLANNING

You'd be mad to set up any kind of shop without a well thought out business plan – and that goes for the online kind as well.

01 We'll presume you have a good idea of what you want to sell on your site, so now you need to plan what you want to achieve. Don't get bogged down in 'how' to do it at this stage – you can afford to be idealistic.

02 Do you have an ISP account? If you don't, now's the time to get one. Make sure it's reliable and can handle a high volume of email. U-Net (www.u-net.net), PSI Net (www.uk.psi.net) and UUNET (www.uk.uu.net) are examples of good ISPs that focus on business users. You'll need a Net connection, too.

03 Some products work better on the Net than others.

According to a recent report from Fletcher Research (www.fletcher.co.uk), several important sectors lend themselves to online sales, including PCs, travel, shares, insurance and books.

04 Consider who your customers are. Does your target sector have access to the Net? Do they have credit cards? Reports vary, but around 80 per cent of those using the Net in the UK

in 1998 were men, but this is set to change. In the US, the gender difference is almost negligible and AOL (www.aol.com) says it has equal numbers of male and female users. Few Web sites set out to target women. Around 60 per cent of Net users are based in the US. Europe (21.75 per cent) is second, and the Middle East has the lowest percentage of people. Visit NUA (www.nua.net) for more statistics.

05 Do some sector analysis. Is the market for your goods already established, or will you have to carve one out for yourself? If your rivals are online, visit their Web sites. Make a list of what you like and dislike about them. Don't be fooled by an attractive design – many Web sites, including some big



06 A Web site isn't just for Christmas, it's for life (or as long as you manage to stay in business!). Don't underestimate how long it takes to keep a site up to date. You want to encourage repeat visits, so you'll need to keep your site fresh. Have a look at online auctioneer, QXL (www.qxl.com), for a good example.

08 Big high street shops to employ mystery shoppers to visit rival stores and check prices and services. If you're serious about setting up an e-business, try doing a few online transactions yourself.



Quality
Xtreme
Life

Residential
Commercial
Industrial

Q search

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Services
Education
Government
Finance
Food & Beverage
Energy
Transportation
Technology
Media & Entertainment
Telecommunications
Manufacturing
Construction
Agriculture
Automotive
Aerospace
Defense
Marine
Aviation
Space

Join how to bid call customer service bid history about us home

Welcome to the new look of QXL. This is a total renewal of the colours and logo we'll be using on our website.

Have a look at some of our new updates and let us know what you think.

New to the site? Enter a code or just log in to get in the action.

- [PROMOTE](#) Ego-ShopPurity
- [Current](#) Categories
- [Click](#) through Auctions
- [Only](#) 100 items/Shop
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Innovative

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QXL SURPRISE AUCTIONS

How fast did the company deliver the products? Did it offer online order tracking? Did the site appear to be secure?

Design and hosting could take up a lot of your budget. Good designers command high salaries. You can't skimp on hosting either.

09 Stop. Have you done all your planning? The key to a successful e-business is to plan sensibly and systematically. Web design agencies, such as Agency.com (www.agency.com), have been known to spend up to a year getting to grips with their clients' corporate philosophy and figuring out how to interpret it. Agency.com has won awards for its

10 To set up shop online, you'll have to register a domain name. Find a good host for your Web site (that'll let customers browse your site quickly) and get it designed. Web design companies and ISPs often try to sell these services as a bundle, but don't be fooled. These are specialist areas, and you can find bargains by hunting around. You don't have to host your site with your ISP. You might be better at a dedicated host, such as Magic Moments (www.magic-moments.com) or Rapid Site (www.rapidsite.co.uk). You don't have to register a domain name with your Web design agency, but it'll probably try and persuade you!

11 Design isn't something that's easy to quantify or understand. There are three ways to go about it – do it yourself, hire a Web design agency, or employ a whiz kid. If you're taking the DIY approach, you'll need to buy some Web authoring software. Names to look out for include Microsoft FrontPage (www.microsoft.com), Allaire HomeSite (www.allaire.com), Softquads HoTMeta! Pro (www.sq.com) and Adobe Pagemill



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- Complete security – Secure Server Pages allow your site to be e-commerce enabled
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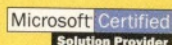
- Choose the package which suits your needs – single user and multiple user email accounts available
- Keep your email personal with IDress – our all-in-one domain and email package. You can change your ISP again and again and your email address stays the same!
- FREE Mail Mapper for maximum flexibility – control your email forwarding using a unique password protected web page

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(www.adobe.co.uk). They take the hassle out of writing HTML. Most of them include templates that'll let even a complete novice produce a reasonable-looking site quickly.

12 Don't underestimate how long it takes to build your Web site, particularly if it involves designing forms and creating graphics from scratch.

13 Finding a good Web design agency can be difficult. Personal recommendation is best, so chat to clients and suppliers. Or try typing 'Web design agencies' into the search box of Yahoo! (www.yahoo.co.uk). You'll get a long list of companies. Be prepared to spend some time looking through the list.

14 From a design company's home page, follow the links to its clients' pages. Do you like the look of them? Does it look like the designers have understood their clients' needs? When you find a company that appeals, ring them for a quote.

15 If you don't want to design the site yourself, and you can't find a suitable design agency, you could try a whiz kid. The bad news is that good Web designers are in high demand and cost a lot. Try looking in relevant newsgroups. See Deja News (www.deja.com).

16 It can often pay to mix and match. You could get a design company to construct the basics of your site. Then you could take over the job, updating the site yourself. A good Web design agency will be happy to visit your office and install the software you'll need to update your pages.

PRODUCT PRESENTATION AND PRICE

Making the site easy to navigate, and presenting the goods clearly, is crucial

17 Have you ever wondered why people buy online? A lot depends on what you sell and who your target audience is. A person might buy a book at Amazon (www.amazon.co.uk) because their local branch of Waterstones hasn't got it. Someone else might buy their PC direct from Dell (www.dell.co.uk), because the nearest PC World store is a two-hour drive away.

Lastminute.com

www.lastminute.com

Launched: October 1998.

Location: London, Paris and Munich

Background: Specialises in providing a wide range of last minute services, including holidays, entertainment and gifts.

Success rating: Six million page impressions per month. Some say it's ripe for flotation.

Unique Selling Point: The company is big on philosophy – a spokesman claims the site is "inspirational, promotes spontaneity and a zest for life".

E-business tips: A spokesperson for Lastminute said: "An e-business should build itself around its customers. Excellence in dealing with your customers' needs is essential, as is developing a relationship with the customer. Fast and quick thinking is not an option, it's the only way to survive!"

E-business mistakes: "Never think small. Think the impossible is possible."

18 Study the implications of selling on price alone. The short history of e-business is littered with failed sites that thought the world revolved around prices. Bigsave.com (www.bigsave.com) is selling not just on price, but on being unique. A lot of things are more important to consumers than price.

19 Convenience is a major selling point. Buying from the comfort of your PC has major appeal. Make sure your site is easy to navigate. And a good hosting company will make it quick to use.

20 Think about adding value. The site of Condommania (www.condommania.co.uk) lets you download family planning literature. It's humorous, yet the advice will be genuinely useful to its target audience. The purpose of the site – to sell condoms online – is nicely disguised. You want visitors to your site to spend money, but blatant selling simply doesn't work.



21 'Hard' products – ones that physically exist, like a pair of trousers – are often presented using just text. Describing a product as "trousers, black, regular fit, 100 per cent cotton, waist 32", length 32" isn't going to inspire a buyer. You need to describe their style and material. It'll help customers make an informed choice and compensate for the lack of a friendly member of staff in a shop or on the phone.

22 Rumour has it, a picture can say a thousand words. People also like to interact with products. Confetti (www.confetti.co.uk), a wedding planning site, lets the blushing bride view dresses in 3D. You can change the angle of view to see all sides of the product.

23 Customers don't decide whether to buy CDs based on their covers. CDnow (www.cdnw.com) is a successful US music CD retailer which is also doing well over here. You can download clips of

music, and listen before you buy. If your product makes a noise, record it and let your customers hear it.

24 You must be able to take the major credit cards, particularly when you're dealing with international trade. Credit cards are great with exchange rates. Your customer's credit card company will convert the cost to the customer's own currency – you don't have to do anything.

25 Customers like to see the price of goods in their own currency before buying. At the very least, you'll need to show the approximate exchange rates on your site.

26 You'll be at a severe disadvantage if your site doesn't take credit cards, because other transactions take a lot longer. But if you're taking payments by other means, such as a cheque or banker's draft, customers need to know that their payments must be in the currency of your choice.

CUSTOMER SERVICE

The customer service at the sites of many large companies leaves a lot to be desired. Follow these simple tips and you'll keep your existing customers and attract others from your rivals.

27 People that buy goods from your site will judge you on the quality of your customer service. You'll need to work hard to build up their trust. Condommania (www.condommania.co.uk) uses a character, Clever Dick, to talk users through the online purchasing.

28 A huge number of sites (many belonging to well-known companies) have appalling levels of customer service. Get the quality of service right, and you'll be head and shoulders above the rest.

29 How do you build up trust? Be honest. Don't promise anything you can't deliver. Don't try to hide the cost of postage and packaging or VAT. Many sites take you through a lengthy ordering process, only to hit them with a huge postage bill at the very end.

Treat customers that way, and you could be out of business in no time.

30 Customers like getting feedback on their orders. Crawley-

Yalplay

www.yalplay.com

Launched: Began life in May 96 as iMVS. Rebranded as Yalplay in July 99.

Location: Abingdon, Oxfordshire

Background: iMVS grew out of the Internet Bookshop, which was sold to WHSmith in July 1988. As part of its growth strategy, it made partnership deals with record companies, including EMI, Sony and Virgin.

Success rating: £1.33 million annual turnover (as iMVS)

Unique Selling Point: The design of Yalplay is bright, lively and simple. It offers a huge range of products, including CDs, videos, DVDs, minidiscs, games and even vinyl records (remember those?).

E-business tips: "Setting up a Web site is just the beginning," said a Yalplay spokesperson. "Where will revenue streams come from in the long term? Customer service is important. We offer the best gift wrapping, message options and order tracking on the Web."

E-business mistakes: "Don't be impressed by hit rates of rival Web sites. Conversion to sales is the most important figure."





based online CD retailer Audiostreet (www.audiostreet.com) has an excellent online order tracking facility. Yalplay (www.yalplay.com), another online music retailer, emails its customers at every stage of the process. This is in addition to its excellent online order tracking service on its Web site.

31 Customers expect prompt delivery of orders. Ideally, they should be dispatched within 24 hours of being received, if you have the goods in stock. But even with the best will in the world, delays are inevitable. The trick is to keep your customers informed and, where appropriate, give them the option of cancelling the order.

32 Think about an email mailing list for your loyal customers. They'll like news on developments on your site and it'll encourage repeat visits. But a word of warning – they won't appreciate being bombarded with spam.

33 Respect your customers. There are three ways to do this. First, popular e-commerce sites have a simple design. Not all your visitors will be using the latest browsers or the same plug-ins. Second, explain everything. Many visitors to your site will be from overseas. They might be shopping for goods or services that aren't available in their own country or are simply not affordable. A product's purpose might be clear in the UK, but confusing in the Ukraine. Finally, what's funny in one country might be offensive in another, so keep jokes to a minimum.

34 You should definitely have a set of terms and conditions displayed on your site. It should be accessible for viewing by your customers before they purchase anything. Bear in mind that UK trading laws won't apply to other countries. It might be some time before governments around the world get this issue sorted out.

TECHNOLOGY AND SECURITY

We're down to the nitty gritty. Ignore your customer's security fears at your peril.

35 Virtual shopping baskets are the basis of most large shopping sites. The aim is to encourage customers to place orders in the



Bigsave.com

www.bigsave.com

Launched: September 99

Location: Isle of Man and London

Background: The first online shopping centre in Europe, offering a vast range of products including kitchenware, toys and cars. UK-based shoppers will be able to browse and buy products in shops throughout Europe.

Success rating: Launched last month.

Unique Selling Point: Vast range of products, community-based noticeboards and substantial savings.

E-business tips: A spokesperson for Bigsave.com said: "While traditional retailing is about location, e-tailing is about how good your database is. Databases let you induce purchases, generate new leads and add value across every aspect of your business. So manage it well!"

E-business mistakes: "Don't over-promise. The Internet is full of sites that promise things they can't deliver. Keep the number of clicks needed to purchase a product as low as possible."



'basket' as they browse around your site. The basket is accessible from every page. It also lets customers view the products they plan to buy. When they've finished shopping, the basket is taken to a virtual checkout.

36 You'll scare off your customers if you don't offer secure credit card handling. You should never underestimate the fears of the general public over the security of online transactions. You might know your system is completely secure, but your customers will still need plenty of reassurance.

37 Many companies specialise in secure online transaction services. When a customer orders something from your site, the order is normally transferred to the site of your secure online trading company. This company asks for the customer's credit card details, which are sent to the credit card company for validation. This takes a couple of seconds. Finally, the transaction is processed and a message is sent back to the customer's page, confirming that payment has been accepted or declined. The good news is your customer won't know they're being dealt with by another company. The system means you aren't troubled with what can be a complicated process.

38 The link that online transaction services use is secure. Netscape and Internet Explorer each show when a secure link is created with an icon at the bottom of the screen. In Netscape it's a

padlock, with Explorer it's shown with a key. This is useful in reassuring your customers that the data they're providing is secure.

39 Decide what type of system to have on your site. Most database-driven sites use server-side scripting to operate the virtual shopping baskets. The bad news is your customer will have to wait a few seconds while their browser connects to the server, transfers information, updates the basket and sends it back to the browser. You can get a client-side shopping basket, which is faster, resides on your site and is quick to update. But they don't work well with huge databases of products.

40 Shipping can be a real pain. You'll need to shop around. There are numerous small carriers that can beat the Royal Mail and Parcel Force on price. Delivery outside the UK can be expensive, so do your research.

41 You might want to offer your customers a choice of next-day, three-day and insured delivery. You'll have to check that your order processing system can cope with these different types.

42 E-commerce is still new to some people, so you might want to let customers order by phone, post or fax. But you should always encourage them to use your secure online facilities.

MARKETING

In traditional business, location is everything. With your e-business, marketing is the most important ongoing activity.

43 You might think your Web site is God's gift to the Net, but marketing your site is an never-ending process. Search engines are free, and many of your customers will use this method to find you. Northern Lights (www.northernlights.com) and AltaVista (www.altavista.com) are two of the largest search sites on the Web. Excite (www.excite.co.uk) and Yahoo! (www.yahoo.co.uk) are two of the most popular.

45 To get a good ranking in the search engines, make sure your site uses appropriate META tags. These give descriptions of the content of your site and keywords that people are likely to type into a search engine. Some search engines don't read META tags, so make sure the ones you register with do.

46 There are hundreds of search sites on the Web. Submit It (www.submitit.com) and Add Me (www.addme.com) let you submit your URL to many search engines throughout the world.

In the first issue

5 today

"A big cost-cutting attraction of 'business-by-Internet' is that of foreshortening the distance to the point of transaction, obviating the need for paid-for display ads, out-of-house marketing, and third-party distribution. ... If the seller was pitching more directly to the customer, the profit potential could, in theory, be maximised. ... However, the very lack of organisation and regulation that lured them Internetworks could also serve as a deterrent."

47 Add your URL to everything you print – letterheads, business cards, T-shirts and mugs. The owner of EasyJet, the budget airline, even printed the URL (www.easyjet.co.uk) on his planes.

48 Think about advertising offline, such as in publications that are relevant to the subject of your site.

49 Running mailing lists by email is an good way to get people to come back to your site. Invite visitors to give you their email address so you can update them on developments on your site.



Connect, Share, Listen to the Internet



Internet Access with Memory

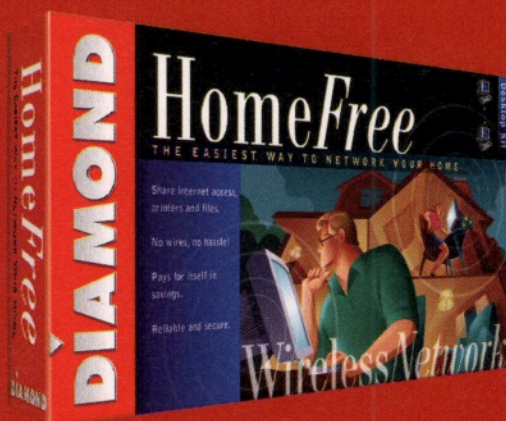
SupraExpress is the world-renowned modem brand that constantly wins reviews for unbeatable Internet access at superb value. The new SupraExpress 56e Memory Modem continues to offer fast and reliable download speeds of up to 56K but with something new – memory.

With 2MB of onboard memory you can now receive up to 40 faxes and 15 voice messages even when you are switched off – with total security. For functionality and value for money SupraExpress is the best all round modem to buy. Don't just take our word for it – look out for the reviews.

Wireless Networking

The new HomeFree wireless network is the ultimate way to share Internet access, printers and files, or even enjoy multi-player games. Using your phone line at home, you simply plug it in and immediately start sharing information and peripherals without the expense of wiring your home or buying extras.

HomeFree gives you complete flexibility and connects up to 8 PCs in the house within 50 metres, with high speed transmission rates of up to 1Mbps. Enjoy fast moving games with your friends, high-speed Internet access and say good-bye to sharing with floppy disks.



Internet Music on the Move



Rio is the first worldwide portable music player to play music tracks from MP3 files – the most popular music file format on the Internet. Or using the software included with Rio, MP3 files can also be made legally from CDs**.

It's the personal stereo that fits in a shirt pocket, weighs less than a mouse and never skips. With 32MB of on-board rewritable memory, Rio can store up to 60 minutes of digital music, or double when you

add a 32Mb smart card. Also included is a preset graphic equaliser with 4 settings, headphones, digital display, random and repeat playback modes.



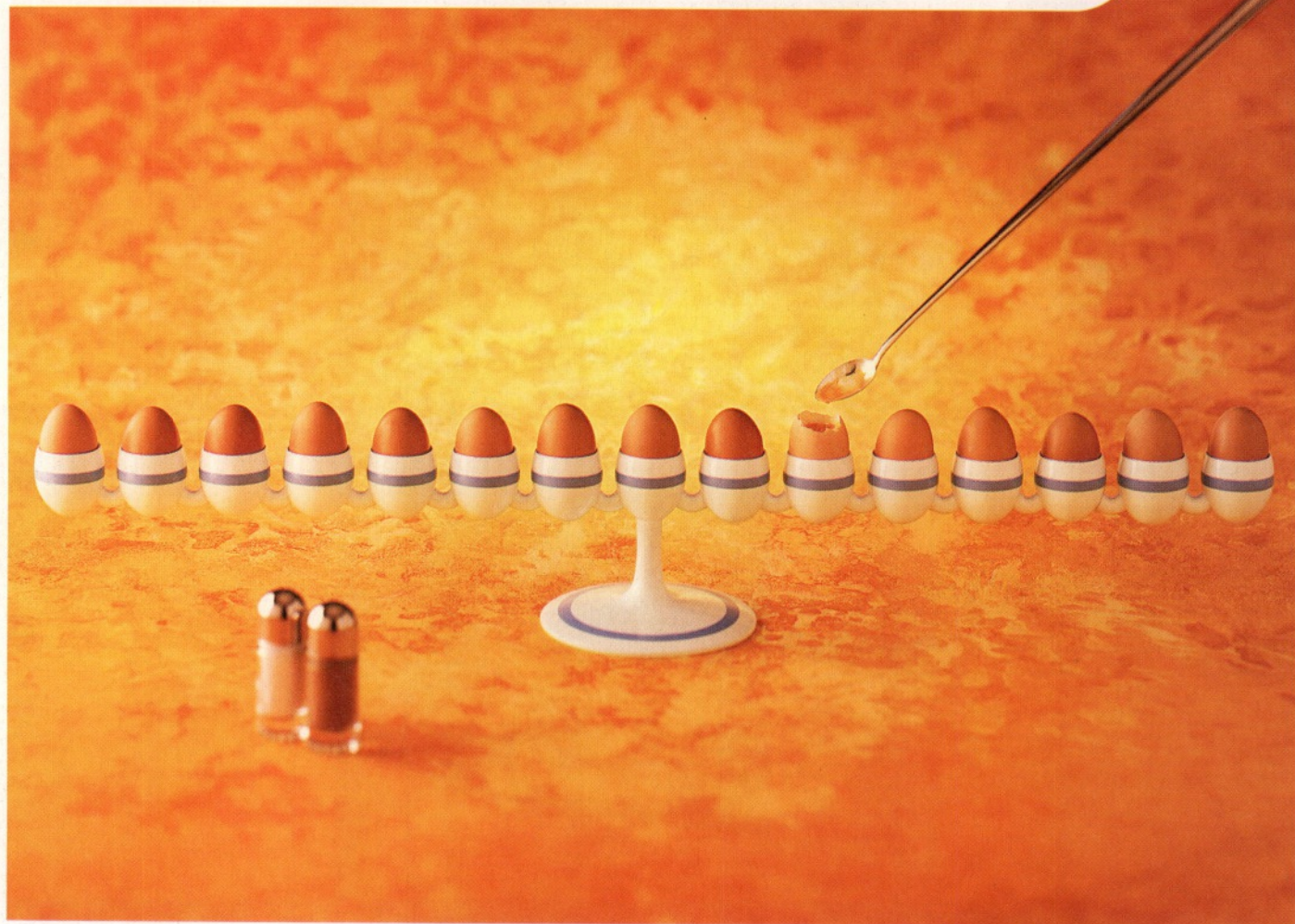
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MP3 sites

The MP3 file format might not sound exciting, but it's got the music industry all steamed up. High quality, fast-downloading sound files mean music on the Net is about to come into its own. **Gail Robinson** tunes into the best MP3 sites

The Beastie Boys have released a Net-only MP3 track



Forget portal, MP3 is this year's Net buzzword. Which is quite an achievement, since MP3 is an unsexy compression standard for downloading audio. It's great at shrinking down sound files while retaining CD quality, but MP3 became a *de facto* Internet standard thanks to some lax licensing from its developers.

Before the record industry could say, 'Hey, where are our royalties?' the MP3 encoder had been downloaded by millions, and people were taking tracks from their home CD collection and putting them on Web sites for the whole world to enjoy for free.

The big record labels panicked, but they eventually woke up to the fact that MP3 is not so much a threat to their business as an opportunity to increase record sales through a new, low cost distribution medium – the Internet. And you can't ignore the stats – 17 million MP3 files are downloaded from the Net every day.

In the first issue

Low Down is a new Web server launched in September [1994]... Once connected to the Low Down home page, you'll be given a choice of artists to access and, through a series of hypertext links, you'll be able to browse a host of information in text, graphic and sound formats. Indie/rock band, Pop Will Eat Itself, is the first of many artists to go online. It felt the Internet was a credible medium in which to launch its new album *Dos Dedos Mis Amigos*, offering you access to release and tour news, a band biography, an image of the sleeve, new pictures of the group, snippets of tracks, an audio interview, and possibly a short video clip.

But the record labels are far from happy. They're looking for a way to make sure music can be delivered digitally in a pirate-proof way. The major record labels have got together under the Secure Digital Music Initiative (SDMI) to work on this problem. But don't worry, you'll still be able

to copy music for your own use, it's commercial piracy that worries these guys. One solution is digital watermarks in MP3 files that identify its owner or origin, and you can already get software players that encrypt audio files and limit the number of plays.

When Diamond Multimedia's Rio MP3 player came out last year, the Recording Industry Association of America (www.riaa.com) tried to stop it from being released. They feared it would lead to worldwide piracy. But this attitude has changed. The music industry knows the technology is there, but it wants to make sure any copying is strictly for personal use, and not for uploading and downloading tracks from pirate sites.

A new range of affordable MP3 players will be released in time for Christmas. So to find out exactly where to download those strictly legal MP3 files, turn the page for our selection of the very best sites.

COMMERCIAL SITES

CRUNCH MUSIC

Most MP3 activity is US-based. So Crunch Music is something of a novelty. Most of the music comes from independent dance labels, but the site is one of the best MP3 resources in the UK. "The record execs realise MP3 is here to stay," says Jon Davis, the site's general manager. "It's a good way to promote, market and sell your music." And he has the backing of



20 million MP3 users. Davis and his team predict an explosion in the UK digital audio market once local calls are free and the speed of the Internet is fast enough to download an album in minutes. In the meantime, Crunch has even attracted the huge US site, Emusic (see right) as an investor.

www.crunch.co.uk

EMUSIC



Emusic.com is a commercial MP3 site that works with leading, independent record labels. It costs 99 cents to download a track and \$8.99 (around £5.80) for an album. Featured bands include They Might Be Giants, who have launched an MP3-only album, *Long Tall Weekend*.

www.emusic.com

UNSIGNED ARTISTS

RIFFAGE

Riffage offers one of the best deals for unsigned artists. Bands get 85 per cent of any revenue their music generates from the site. A useful feature recommends music you might like to hear based on tracks you've previously selected. The site also tells you how to create your own MP3s if you're new to the technology.

www.riffage.com

MP3.COM

Despite its URL, MP3.com has nothing to do with the developers of MP3. It's an MP3 portal with over 100,000 free songs that you can download from over 18,000 unsigned bands and solo artists. It's one of the busiest MP3 sites on the Net, with over 200,000 visitors a day. You can search for an artist by name, genre or region.

www.mp3.com

IUMA

Over 3,800 independent musicians upload their work onto this site and make use of IUMA's free Web space. All of the musicians have MP3 and RealAudio versions of their music, which you can download for free. A wide variety of musical styles are covered here, from hip hop through to country.



www.iuma.com

MP3 PLAYERS

HANDHELD PLAYERS

There's a limited number of portable MP3 players on the market. The most famous is the Diamond Rio. At its Web site, RioPort, you'll find a repository of all things relating to the product, including a Shockwave demo. You'll also find exclusive MP3 files, which you can download direct to your own Rio player. Nomadworld is a site dedicated to Creative's Nomad digital audio player. The featured artists' section boasts big



names (such as Cher) who preview songs from their latest albums. Unfortunately, the downloadable audio selection is limited to female contemporary and 'electronica' genres. But there's also a history of MP3 and tips to increase the performance of music on your PC. Audible's site has over 15,000 hours of downloadable



content for its handheld MobilePlayer, which can hold up to eight hours of audio. The product doesn't support MP3, but the site has an MP3 section with free samples of some of the best Audible programs.



www.rioport.com
www.nomadworld.com
www.audible.com

THE MUSIC INDUSTRY, MP3 STARTER SITES AND RIVAL STANDARDS

THE MUSIC INDUSTRY

You might have noticed the lack of big name record companies in this round-up of MP3 sites. But we should see some serious money being invested in digital audio by the end of this year. Sony Music is developing a music hub called Uville, which should be online by the time you read this. Warner Bros is moving into the same area with its Entertaindom site, which has a good selection of popular artists. Check



out the WB Records Jukebox and the audio and video demos. Meanwhile, Viacom - owner of MTV and VH1 - is working on a music portal with the working title The Buggles Project.

www.sony.com
www.uville.com
www.music.warnerbros.com
www.entertaindom.com
www.mtv.com/nav/intro_music.html

DAILYMP3.COM



DailyMP3.Com is an excellent resource for the latest MP3 software updates and news. It's also worth a visit for the handy MP3 FAQs (Frequently Asked Questions), which explain how you create MP3 files and how to make CDs from MP3 files.

www.dailymp3.com

FINDING MP3 FILES

LYCOS MP3 DIRECTORY

This is supposedly the world's largest MP3 directory with over 500,000 files. It might be slightly smaller now, as Lycos has promised the Recording Industry Association of America (RIAA) not to link to any pirate MP3 sites. You can search for an MP3 by the name of a band or song title.

<http://mp3.lycos.com>

MP3META

MP3meta scans 200 of the top MP3 search engines and compiles the results into one report, with the files rated by relevancy. The search engines used include Lycos, MP3.com and MediaFind, so this site is well worth a visit if you're after an obscure track or band. There's also a top 1,000 chart of search requests.



www.mp3meta.com

FINDSONGS.COM

This is an amazing search engine. You type in the name of your favourite song or artist, state that you're only interested in MP3 files, and it goes away and does its stuff. One drawback is we can't vouch for the legality of all the sites Findsongs.Com directs you to.

www.findsongs.com

spotlightonMP3

THE BEASTIE BOYS



One of the few big name bands to take digital music seriously. The band has made the previously unreleased track, *Body Movin*, available only on the Internet. And for every copy of the file that's downloaded, the boys will donate \$1 to charity.

www.beastieboys.com

AMAZON

Amazon has some good exclusive free downloads on its site, including big names such as David Byrne, The Mavericks and Sheryl Crow. And how can you resist downloading the latest Barry White track?

www.amazon.com

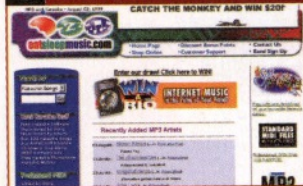
LISTEN.COM

This directory of downloadable music is organized into a diverse list of genres, from Gangsta Rap to Avant Garde Gospel. You get reviews of the tracks, plus a list of similar artists so you know what kind of music you're getting. You can even vote on the quality of the track.



www.listen.com

EAT SLEEP MUSIC.COM



Up and coming bands can put their tracks on this site, while visitors are invited to download songs for free.

The full CDs are available for purchase online. You can also get music industry news and digital audio news, and a free karaoke player with free songs!

www.eatsleepmusic.com

AUDIO GALAXY



AudioGalaxy generously gives bands 25Mb of free Web space to do whatever they want (they can even use

the space to sell merchandise). There's a popular chat room, reviews of the music of member artists, and an up to date list of MP3 software releases.

www.audiogalaxy.com

MP3 CRITIC

There are so many independent bands putting music online it's hard to know what's worth listening to. MP3critic reviews them and recommends the top tracks. MP3critic also runs the Stream Radio—the Internet's first all-submission radio network.



<http://mp3critic.com>

REALJUKEBOX



RealJukebox is a popular bit of software from RealNetworks. There were one million downloads within the first 10 days of launch. As well as playing back and recording digital music,

the software lets you take tracks from your audio CDs and turn them into MP3 files. RealJukebox is free to download and turns your PC into a great way to listen to music.

www.real.com/realjukebox

MUSICMATCH



To make your own MP3 files from your CD collection, you need two bits of software—a ripper to get the audio from the CD, and an encoder to convert

the file into the MP3 format. One of the best free ripper and encoder programs is MusicMatch Jukebox. It lets you convert your favorite tracks for free at near CD quality.

www.musicmatch.com

AUDIOCATALYST



This ripper and encoder program comes from Xing Technology—a company so good that RealNetworks recently bought it. This software is based

on the number one selling encoder, XingMP3, and on AudioGrabber, the most widely used digital audio ripper. It converts your CDs into MP3s in one easy step.

www.xingtech.com/mp3/audiocatalyst

MP3NOW



This site is a good starting point if you're new to MP3s. There are handy FAQs on how to create MP3

files, links to MP3 downloads and information on the latest MP3 hardware and software developments. You can even subscribe to the site's free MP3 newsletter.

www.mp3now.com

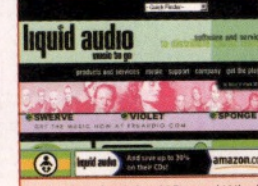
A2B MUSIC

This MP3 wannabe benefits from a big cash influx from AT&T. A2b Music can compress files at ratios of up to 20:1 and has encryption and digital signature features built in, which should make it popular with the record companies. You can also download a free music player from the site.



www.a2bmusic.com

LIQUID AUDIO



Formed by a collaboration of music industry veterans and sound engineers, the Liquid Audio music player uses an open architecture that supports the AC3, MP3 and Windows Media formats. It's free to download, as are the liner notes and album art which are available from the site.

www.liquidaudio.com

MP3 MISCELLANY

SHOUTCAST



SHOUTcast is technology for broadcasting MP3 files from a server. If you set up a server and play an MP3, anyone

connecting to your server will be able to copy the file as it's being transmitted, and play it on their computer. For links to SHOUTcast servers, check out MP3Spy (www.mp3spy.com).

www.shoutcast.com

AUDIO HIGHWAY

As well as music tracks, Audio Highway has free audio books, comedy and drama MP3 files to download. You can keep up with the number one songs in the US and get songs from the latest movie soundtracks



www.audiohighway.com

AMP3.COM



This independent artist site has some weird musical genres. So if you fancy a bit of experimental folk, tracks from Broadway musicals or a spot of zydeco, this site is worth a look. AMP3.Com will pay participating artists every time someone downloads a copy of their music.

<http://amp3.com>



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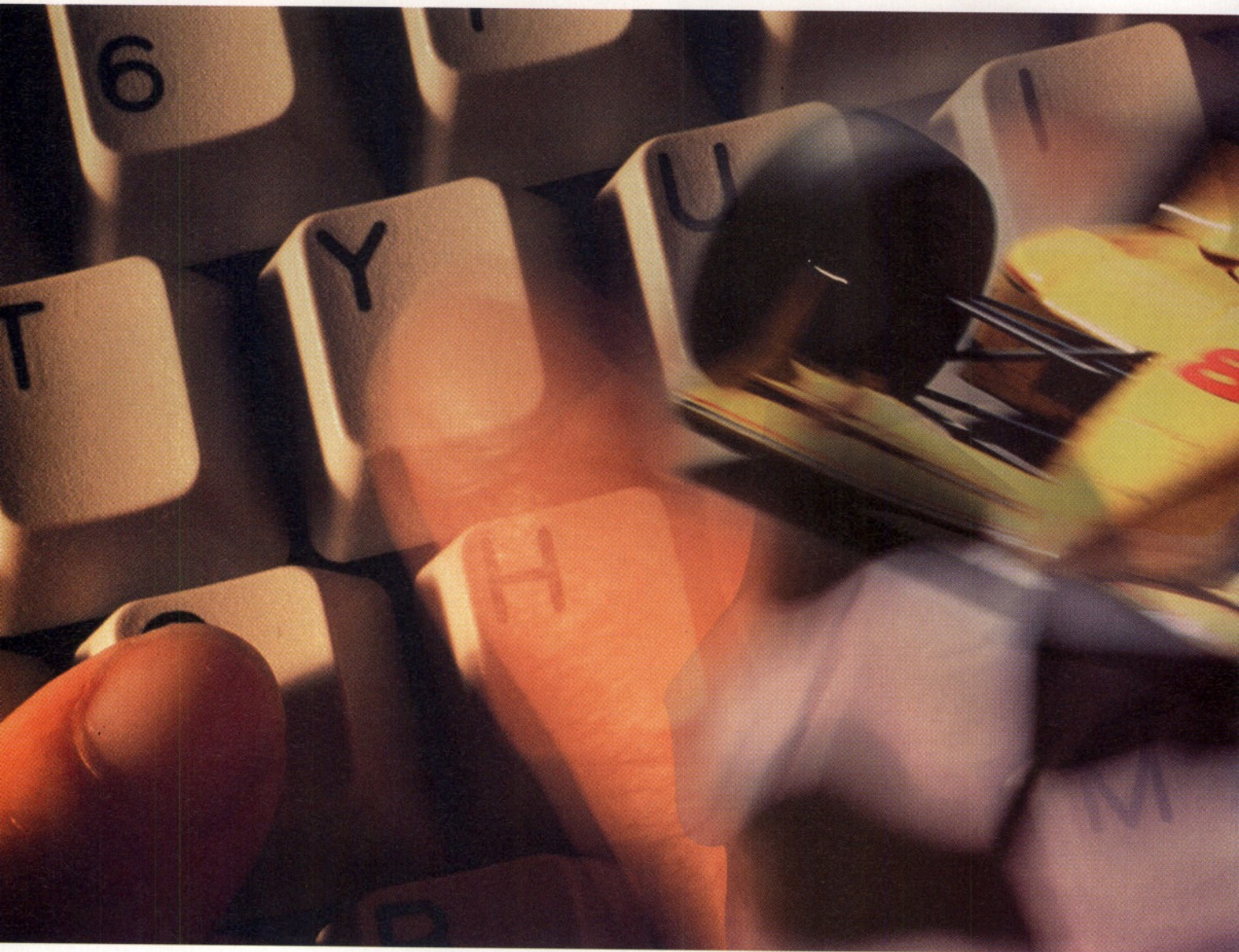


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site survey

This month's top sites rated by experts // brief / budget / content / design

The Body Shop

www.the-body-shop.com

A redesign from the eco-toiletries company shows what a franchise can do on the Internet

The Body Shop Web site is an inspiration to browsers everywhere. After a lacklustre debut, it's been completely overhauled, using animated GIFs, WebObjects and JavaScript to give it a new lease of life and a great new look.

The site has taken six months and a five-figure sum to develop, but it's been worth it. Every page is bursting with colour, and the concise, informative articles cover every aspect of The Body Shop – from animal cruelty to makeup tips. The one complaint about design is it can be difficult to read, as background and text colours can be too similar.

But why can't you buy products from the site? The answer is, The Body Shop is predominantly franchised in the UK, so selling online is a complicated issue. "We'll be working with franchisees on a structure so we can launch a UK e-commerce service," says Lewis John, Internet manager for The Body Shop.

The company is planning to develop the site with new

sections for community trading, the Mostly Men brand and an online shop. "We plan to launch components that are focused on different women's interests," says John, "but we'll also cater for men and we're developing new interactive components and content to achieve this."

The site succeeds in promoting products without expecting you to buy anything. The Body Shop is more than just your average cosmetics retailer – it also has a good grasp of what can be achieved on the Web.

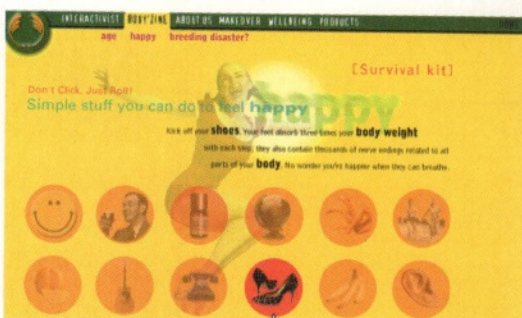
Sarah Britton

THE BODY SHOP SCORES...

Design ★★★★★
Content ★★★★★

YOU'RE MAKING IT UP

Clarins www.clarins.co.uk
Boots www.boots.co.uk
Max Factor www.maxfactor.com



Come on, get happy with some top tips from the Bodyzine section



The site's a treat to look at, full of bold colours and images – all this and quality content too

HOW DO THEY DO THAT?



The virtual makeover section has excellent tips on how to apply makeup, with a selection of six models to be made over. This is great fun, but it's also really helpful, giving you a good idea of which colours complement each other. You can even choose music for inspiration while you're working. There are four different styles – day, party, now and fresh. "The virtual makeover was built using Flash – I hope you've had a play with it!" enthuses John.

In the first issue



Five years ago we wrote about an up and coming newspaper site that seemed to have grasped what was required of the World Wide Web (a rapidly expanding medium with 'over 5,000 Web sites'). Now *The Guardian OnLine* has become *Guardian Unlimited* – a portal of different news, sport and lifestyle content. The old site used to carry news lifted straight from the paper version, but *Guardian Unlimited* has a dedicated team of 15 editorial staff.

www.guardianunlimited.co.uk

5
today



Dr Martens p88



Eastbourne Photo Index p90



eXposure p93

Virgin Atlantic

www.virgin-atlantic.com

Virgin's Web site aims to reduce travel worries to simply getting to the airport on time

With more and more people booking holidays on the Net, Virgin Atlantic's relaunched Web site aims to set a new standard in online travel.

Members of Virgin's own Web team worked with top designer iXL (www.ixl.com) and booking engine designer EDS (www.eds.com) to produce a site that's cleanly designed and easy to use.

Pages are clearly laid out and cover everything you need to know about catching a Virgin flight. Online booking is easy, and JavaScript is kept to a minimum, so most browsers can get the best from the site.

You can choose from pull-down schedule information menus, a Shockwave route network or baggage allowance details. The site will even tell you where to find your check-in counter. You can also register for a frequent flyer account and access your account online.

In the Join in section, Virgin has joined forces with *Time Out* magazine to provide the latest currency, weather and destination information.

The one gripe about this excellent attempt at the perfect online booking experience is the red text on red pages. Many text links will have you squinting at your screen. But on the plus side, there isn't a single photo of Richard Branson.

Mark Whitehead

VIRGIN ATLANTIC SCORES...

Design ★★★★★
Content ★★★★★

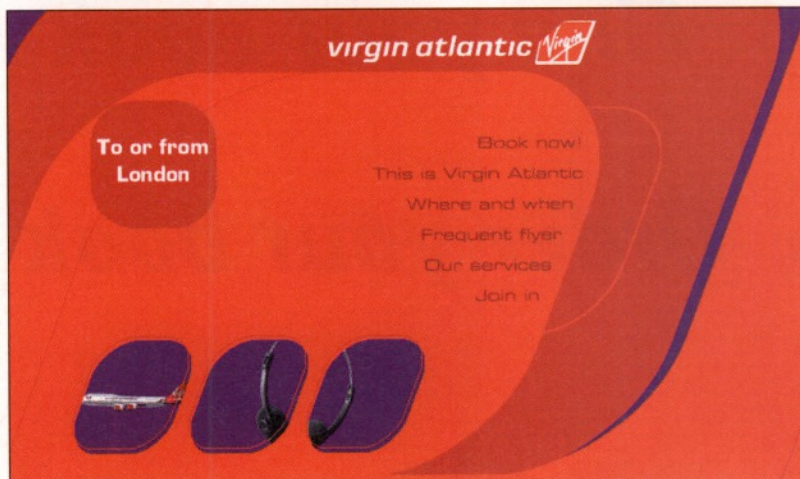
JUST WANT TO GET AWAY

British Airways www.british-airways.com
EasyJet www.easyjet.com
Thomas Cook www.tch.thomascook.com

HOW DO THEY DO THAT?



The site lets you check out the airline's new livery and the Virgin Clubhouse lounges around the world. "The images were created using 3D rendering, and then animated using Shockwave for more exciting 360° views," explains Chris Birch, Virgin Atlantic's marketing development manager. Static images were never an option – Birch wanted to offer something more tangible.



The site's navigation is clear and simple, but you're in trouble if you don't like red

NUS

www.nus.org.uk

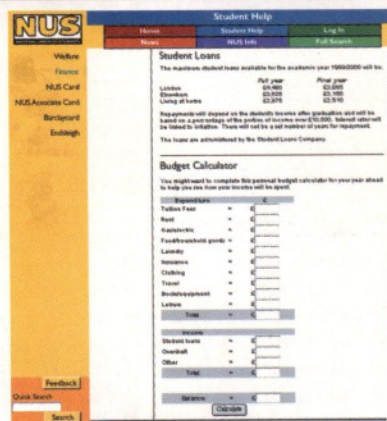
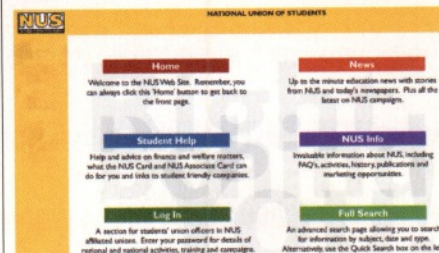
The site by students, for students, gets a new look

The National Union of Students is notorious as an active organisation, but its site seems to be looking out of the window, rather than concentrating on the job at hand.

That said, the new site is a lot better than its predecessor. Navigation is easy and the design is simple but pleasing. The site is the work of designers Broadband Communications (www.broadband.co.uk). There's Flash here, but not at the exclusion of students with older technology – if you don't have a plug-in, the site still works fine.

Project manager, Karen Goddard, is keen to develop the organisation's Web presence. "We can deal with key issues and campaigning activities, encouraging involvement at all levels," she says.

But it's difficult to have interactivity when there's so little content, and Goddard stresses that the site is still on trial. It's early days, so the site's detailed feedback section should soon be full of opinions from eager students.



Stretch that grant with the budget calculator

There are plans to add online petitions and questionnaires to the site, but for now, there's a handy budget calculator on the finance section for students struggling to make a grant cheque last the term. Also worth a visit is the impressive News Archive, with its extensive database system created by Broadband Communications.

The site includes information on big issues (safe sex, drug use and meningitis), but there's little attempt to provide links or the opportunity to discuss them. You're left wondering if the NUS shouldn't reconsider this site if its main aim is interactivity.

Rosalyn Gahan

THE NUS SCORES...

Design ★★★★★
Content ★★★★★

FOR ALL STUDENT SURFERS

The Journal www.thejournal.com
Su-net <http://sunet.whiting.co.uk>
Student UK www.studentuk.com

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www.amazon.co.uk

Return to the Centre of the Earth

www.return2centre.com

The Web site of the sequel to the album of the master of the rock symphony. Rick's back, and he likes Flash

Rick Wakeman has just released *Return to the Centre of the Earth*, a sequel to his '70s concept album. And the Web site of the new album is every bit the epic production you'd expect to complement one of Wakeman's rock symphonies.

Thanks to the site, I've made it to the Centre of the Earth, deciphered the hieroglyphic art, survived the attack of the prehistoric monsters, endured the strains of Bonnie Tyler, and been spewed out of Mount Etna in a giant turtle shell.

But I couldn't have managed it without my 56k modem.

By the time you've made the round trip, you'll have downloaded 15Mb of sound and scenery. You'll need Shockwave 7, QuickTime and a fast

connection to the Net, and if you want to complete the journey in one go, you should set aside a couple of hours.

The idea is simple – take the journey by clicking on paths, tunnels and a personal digital assistant (PDA) loaded with maps, clues and biographies of rock stars. If you play computer games, you'll sail through it.

It's the little surprises that make this site so engaging. Video footage of artists in the recording studio pops up here and there, as does Rick himself for the tricky bits. Miniature versions of the album cover lurk along the route and are saved on the PDA when you click on them. Get a full set and you can enter a competition to win "an item of framed memorabilia... signed by Rick". If you exit the site you lose all your tokens. Never mind.

If you know Rick Wakeman, Ozzy Osborne, Justin Haywood and Bonnie Tyler, you know what to expect from the music. Narration is by Patrick 'bald bloke in new *Star Trek*' Stewart.

But the site doesn't exist to sell CDs. It's a showcase, paid for (about £23,000) by Intel to promote its Pentium III processor and WebOutfitterSM service.

The site was built by Multimedia Mix in Surrey. Technical director, Wayne Smith, is encouraged by how many people persevere through to the end of the journey. "Although our logfiles indicate that visitors with higher bandwidth are staying longer, we've had hundreds of competition entries, so I guess people are in for the long haul."

Just don't let the boss catch you playing it.

Martyn Moore



Marvel at the subterranean splendours of the mineral forest

RETURN TO THE CENTRE OF THE EARTH SCORES...

Design ★★★★★
Content ★★★★★

ROCK 'N' ROCK

The Stone www.thestone.net

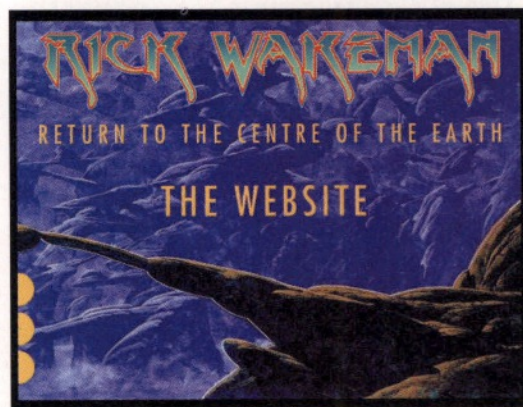
Pink Floyd's The Wall

www.pinkfloydthewall.com

Planetarium

www.beholder.co.uk

/planetarium



The British Army

www.army.mod.uk

The Army's motto is Be The Best, but can its site deliver?

When you see the Union Jack proudly blowing in the breeze on the Army's new site, it makes you proud to be British, and that's exactly what it's meant to do. With the military driving technology forward, it only seems right for the Army to use the Net as a recruiting tool.

The site accounts for 30 per cent of the Army's career enquiries and generates over 1,200 applications a month.

"The site communicates with the target audience in a way that's comfortable, while also entertaining and informing them," says Alistair Goulden, director of officer marketing. "Anything that simplifies recruitment is beneficial." In other words, the site takes away the press gang element of the recruiting office, and lets people ask questions in a non-pressured environment.

As the UK's biggest employer (it has 15,000 vacancies annually), the Army had to

HOW DO THEY DO THAT?



Despite the dynamic look of the site, it's remarkably low tech, bearing in mind the technology available to potential recruits. "In our focus groups, only one person had a home computer and they all hated plug-ins," says Harry Parkes, deputy MD of site designer Cmi (www.cmi-interactive.com). Even when the site uses RealPlayer video to show the TV adverts, a low-tech alternative of the script is available.

The site is designed to look like the Army's TV ad campaign

make sure the site appealed to its core audience of 16-24 year olds. The result is part of an integrated marketing campaign. The site looks like the latest TV and poster adverts. It's stylish and dark – a black background with grey, khaki, white and red. This might sound like the latest fashion colours for autumn and winter – ironic as the Army will be cashing in on camouflage chic with its online shop – but it works.

As you'd expect from the Army, the site has good, clear navigation and a toys for the boys 'Equipment' section which shows off the latest killing machines. The Army's motto is Be The Best. It's a shame this didn't quite stretch to its Web site, because 'Be Quite Good' doesn't have the same ring.

Katherine Harvey

THE BRITISH ARMY SCORES...

Design ★★★★★
Content ★★★★★

IN THE ARMY NOW

The Royal Air Force

www.raf.mod.uk

The Royal Navy

www.royal-navy.mod.uk

Dad's Army

www.phill.co.uk

/comedy/dadsarmy



Odeon

www.odeon.co.uk

The old classic aims to conquer the new blockbusters with a site revamp

Odeon's Web site has undergone something of an overhaul. Apart from purchasing cinema tickets from the comfort of your computer, you can also stop by at its new shop and pick up a few videos or DVDs while you're at it. And the online buying process is simple and stress-free.

"The site provides the perfect platform to sell videos, DVDs and movie merchandise – things we don't sell in our cinemas," points out Odeon's Ross James. "So far it's been enormously successful."

Booking tickets is more complicated. You have to pick a cinema, wait while the site loads the movies on offer, and wait again while it finds the performance times. And that's before you've even entered your credit card details. Don't expect to escape a booking fee, either.

Redressing the balance is the excellent Film Finder section. You can search by cinema, rather than by film. The Preview section lists every movie showing at every Odeon cinema, no matter when or where, but while some boast comprehensive reviews, others merit no mention at all.

To add insult to injury, the Coming Soon area looked as though it hadn't been updated for some time. Compared to the likes of multiplex rival Cineworld (www.cineworld.co.uk), with its superb Coming Soon section, this is a shortcoming.

The new Odeon site succeeds in many areas, but a lack of attention to detail in others has a tendency to let it down. Its beautifully revamped cinemas go some way to rivaling its competitors, but if Odeon wants to do the same online, it'll need to do better than this.

Rachel Weisbach

THE ODEON SCORES...

Design ★★★★★
Content ★★★★★



The Film Finder is an excellent and easy way to track down a movie

CLICK HERE

Time to get your thinking cap on

A useful new service for all budding spies. Thunk.com is good fun for kids, but also provides a unique message scrambler for all email enthusiasts. Type your message onto the screen provided, click on the scrambler icon and bingo, your message is turned into gibberish. Use it with a word processor or email, and you can send

secret messages to anyone. If you receive one of these cryptic missives, pay a quick visit to the unscrambler. The site also provides information about all the fun to be had with cryptography. So get cracking!

www.thunk.com



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ODEON

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WELCOME TO ODEON 26 AUGUST 1999

**JURIL WARR
EPISODE I
THE PHANTOM MENACE**

The Filmstore is the latest addition to a wealth of content on the Odeon site, and gets top billing

ODEON FILMSTORE

HOME PAGE CUSTOMER HELP VIEW BASKET AUTO CHECKOUT ORDER TRACKING ODEON HOME

JUST AROUND THE CORNER FROM THIS WEB SITE
Warner Village Cinemas www.warnervillage.co.uk
Cineworld The Movies www.cineworld.co.uk
UCI Cinemas www.uci-cinemas.co.uk

Dr Martens

www.drmartens.com

One of the world's biggest brands puts its best foot forward

From British work boot of the 1960s, via skinhead, punk and grunge, the Dr Martens boot with its bouncy AirWair sole has developed into a mainstream global brand. With a brand history so enmeshed in youth culture, it had to have a foothold on the Web.

So Dr Martens employed Pres.co, shortlisted at the 1999 Yell awards for its work on Channel 5 (www.channel5.co.uk) and Mynutrition.com. The brief was to rework Dr Marten's two year old Web site – considered cumbersome and too reliant on plug-ins – and create a platform for future online services. "Because Dr Martens has such a diverse worldwide market, we wanted to design a site with the lowest common denominator in mind, so just about anyone can enjoy it," says Pres.co's Adam Sutcliffe.

A graphics-based home page presents you with various areas to dip into. History gives a biography of the brand, with the occasional animated GIF providing just enough movement to hold your interest. Production uses a mixture of text and basic AVI files to chart the progress of a boot from cowhide to shoebox. The Product section uses dynamic



Do your pre-purchase footwear research online

HTML to scroll through pictures of the range. It's a simple technique that looks good and will work well with future retail facilities.

The site is let down slightly in two sections. PR and Music will provide details on sponsored events and links to related sites, but it's decidedly lacking in content. Sutcliffe admits the site has gone live at the "work in progress stage". And while the map-based store finder is impressive, it only covers the US. The UK, Europe and Asia sections are due soon. Even if the Dr Martens site isn't quite walking the walk, it's talking the talk.

Tim Harrison

DR MARTENS SCORES...

Design ★★★★★
Content ★★★★★

THE BOOT'S ON THE OTHER FOOT

Timberland www.timberland.com
RM Williams www.rmwilliams.com
New Balance www.newbalance.com

HOW DO THEY DO THAT?



The store locator software was developed by US company Mapquest (www.mapquest.com). Map pages are served by a CGI application that sits on the same server as the site. The CGI application takes HTML templates and inserts the maps from the Mapquest server. You can customise your templates, including map type, zoom level and the style of location icons. And because the templates are on your server, you can tailor the look and feel of the pages to fit your site and change them at will.

Daily Server

Tuesday 17th March 2001

For your Lucky Lotto Numbers and TV Listings turn to page 26...

30p

FREE Pull Out
INFECTION SECTION
Inside

INFECTED!

Thousands of pounds lost in computer virus attacks...

Every day many organisations suffer huge financial losses due to inept security, this enables email or web born viruses to wreak havoc with valuable computer systems.

Unfortunately infection is not the only problem faced by an unsuspecting business, they also have to fight against confidential information leaks both deliberate and accidental and stamp out the spread of libellous comments via email.

The cost of such damage is hard to assess however some...



A virus under a microscope

Your Secrets are out!

You don't want to catch something nasty!

Every day many organisations suffer huge financial losses due to inept security, this enables email or web born viruses to wreak havoc with valuable computer systems. Unfortunately infection is not the only problem faced by an unsuspecting business, they also have to fight against confidential information leaks, both deliberate and accidental, and stamp out the spread of libellous comments via email.

However by implementing content security, you can provide maximum protection from Internet-spread viruses, restrict network traffic to Internet sites deemed inappropriate in their networked environment, as well as ensure that all e-mail messages and their attachments are completely secured from point of origin, to final destination.

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HomeImprovement

Each month Richard Dinnick and a team of professional Web designers rate and review readers' home pages. Submit your site to richardd@internet.emap.com

Eastbourne Photo Index

Stephen Cousins shows you round Eastbourne with this well designed photography site

NAVIGATION

The navigation on this site is extremely simple. Navigation should be in the same place on every page. This is almost the case here – visitors only have to use the Back button when they want to enlarge one of the thumbnails.

DESIGN

Using a white background is always preferable – it makes text easy to read and print. It's doubtful whether so much could have been displayed on this site if the text had been white on a black background.

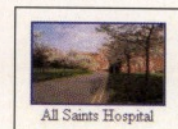
SCROLLING

Most people don't want to scroll down a page for vital information. It wastes time. This site avoids the problem by putting all the information relating to the creation of the site at the bottom of the page, which isn't visible when the page loads.



THUMBNAIL PICTURES

Using thumbnails means visitors only have to wait for pictures they're interested in. This site scores points for using them throughout.



PLUG-INS

If a site uses a plug-in that visitors haven't got, the designer should include a link that takes them to the relevant download page. This site only takes visitors to the main page of the manufacturer's Web site, so they won't know what they're looking for.

FRAMES

Most designers use frames for consistent navigation. But most search engines don't understand frames, and don't read them. It's usually best to avoid them.

The Eastbourne Photographic Index is an ambitious and impressive Internet project from Stephen Cousins. The opening page has a Java applet taking you through a selection of pictures. It's definitely a splash page – a showcase of the photographer's work – and it works well.

TRADE SECRETS



Margaret Manning
Commercial Director
Reading Room
www.readingroom.net

Images should be optimized for the Web. One black and white

image was scanned in colour at 200dpi. The screen can only handle 72dpi, so the quality's higher than it needs to be. Photoshop can reduce the file size to less than 10Kb, making the pages load faster. Search engines only read the first 1,000 letters within each tag, so don't bother including more than this – you could be penalised. Use META keywords sparingly and don't repeat them. Images should carry ALT tags that pick up key phrases.

Stephen's work is based on his fascination with taking pictures of Eastbourne. And even if you're not interested in the seaside town, you'll still be tempted to have a look around.

There are 23 areas to choose from, ranging from tourist sections such as the Pier and the Tennis Club to areas more interesting to locals, such as Upper Meads, Grove Road and Sovereign Harbour.

Some of the captions to the pictures are delightfully understated. In the Eating Out section (which only features four restaurants), you'll find Charlie Brown's Diner, which has been "known to encourage dancing on tables".

Stephen, a 29 year old psychiatric nurse, only took two weeks to create the site using Frontpage 98, but he's always adding photos. "I can code," he assures us. "But it's far quicker and more fun to use a WYSIWYG package."

Apart from using his Web design talents, Stephen has other reasons for creating the site. "I like Eastbourne and I wanted to promote the town. It's not completely filled with grannies. We have

SITE SPEC

www.monocle.org/eastbourne

CREATED BY
Stephen Cousins

LAUNCH DATE
February 1999

CURRENT SIZE
10Mb, but that'll increase as I add streaming to video content in ASF (Active Streaming Format).

DEVELOPMENT TIME
Two weeks

NUMBER OF PAGES
250

MOTIVATION
I like other people to see my photographs and I needed an excuse to design another Web site.

WHAT NEXT?
A complete redesign using Flash 2, and streaming video tours. There are plans for a Web cam, and more content, such as historical information.

a lively student population and masses of visitors every summer."

The site has had well over 1,000 visitors. "I'd like loads of people to visit the site, but I can't spend every waking minute advertising," says Stephen. "There are more important things to do, like breathing fresh air and changing my child's nappy – although the two things don't usually happen at the same time."

With clean design and presentation of its subject matter, the Eastbourne Photographic Index is a real success. Site designers with a lot of photos to display could do worse than follow its example.

EASTBOURNE PHOTO INDEX SCORES...

Design ★★★★★
Content ★★★★★

STEVE RECOMMENDS

Ruth
www.ruth.co.uk
MP3
www.mp3.com
Pregnancy Guide online
www.pregnancyguideonline.com

Local Government Web Site Index

Charles Sales' labour of love is a great site, but you have to ask – why choose local government?

COLOURS

Don't be afraid to use colours you don't usually see on the printed page. The Web's different. Try to avoid dark text on a dark background or light text on a light background. It'll make some printers spit out blank pages. This isn't the case here.

ICONS

Using icons for traits in lists of similar items is a good idea. This site includes a link to a key to these icons, but it'd be a good idea to provide an explanation when you click on one.

- quick loading
- slow loading
- links to other sites
- heavy weight content
- site unavailable
- site worth a visit
- not worth a visit
- only home page
- suitable for partially sighted
- help available
- A-Z clickable index
- unofficial site

Oultwood LG Web Index
Greater London Local Government Web Sites
(Use your mouse or the keyboard with ALT + letter)

Use the letters below to view the alphabetical list of council web sites:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

There are a number of other UK local government web site index pages, but most do not check and update their links on a monthly basis.

The maps used on this site have been specially compressed to ensure fast page loads. The largest map is 40 bytes. Although most are under 30 or 20.

Thank you for visiting this site! Hope you find it useful.

Oultwood Local Government Council Web Site Index
Use the letters below to view the alphabetical list of council web sites:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Use your mouse or the keyboard with ALT + letter

Site attributes:
- quick loading
- slow loading
- links to other sites
- heavy weight content
- site unavailable
- site worth a visit
- not worth a visit
- only home page
- suitable for partially sighted
- help available
- A-Z clickable index
- unofficial site

Other councils lists:
- Councils within Greater London
- Councils within the UK
- Councils within the UK (continued)

Oultwood LG Web Index
UK Local Government Web Sites
(Use your mouse or the keyboard with ALT + letter)

Use the letters below to view the alphabetical list of council web sites:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

There are a number of other UK local government web site index pages, but most do not check and update their links on a monthly basis.

The maps used on this site have been specially compressed to ensure fast page loads. The largest map is 40 bytes. Although most are under 30 or 20.

Thank you for visiting this site! Hope you find it useful.

Oultwood LG Web Index
Canadian Local Government Web Sites
(Use your mouse or the keyboard with ALT + letter)

Use the letters below to view the alphabetical list of council web sites:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

There are a number of other Canadian local government web site index pages, but most do not check and update their links on a monthly basis.

The maps used on this site have been specially compressed to ensure fast page loads. The largest map is 40 bytes. Although most are under 30 or 20.

Thank you for visiting this site! Hope you find it useful.

GRAPHICS

Avoid massive tables. This site has avoided them by taking any table that's too large and splitting it into smaller ones that take less time to display.

TABLES

The graphics on this site have been compressed for use on the Web. Not one of the images is over 5Kb, and some of the smaller graphics are less than 150 bytes each. This makes the pages load faster.

NAVIGATION

This site makes a good attempt at consistent navigation. The coloured bar (rather than a separate frame) down the left-hand side of every page shows key links related to the page displayed. Although the buttons aren't the same, there's always the option of going to the home page, or the local government index. Other links pop up as you need them.

If you've ever wondered why your council tax is so high, the Oultwood Local Government Council Web site index should be your first port of call. The site's creator, Charles Sale, has tried to create a portal to all local government sites. But his home page includes far more than just links.

TRADE SECRETS



Richard Dinnick
Site Reviews Editor
Internet Magazine
richardd@internet
.emap.com

The A-Z index on the site has hundreds of

links that take visitors away from its pages. To attract advertisers, you need to keep people on your site. Avoid using frames – they'll only irritate people. Set up links so that a smaller browser window opens on top of your original page. People can see the site they've clicked through to, but your page is still visible underneath.

On the opening page, you can search for your local government body either alphabetically, by organisation type (county, city or community) or by country. It's not just devoted to the UK, but also includes the US, Canada, Australia, New Zealand and Eire.

A country search is the most impressive way of finding your local council. If you choose the UK, for instance, you're taken to a map showing all the counties in England (clicking on Scotland or Wales will take you to a similar map for these countries).

On the UK map, select the county you want, such as Cambridgeshire, and you get a local map. You also get a list of smaller councils within the county, such as Huntingdon and St Ives, which have links to their own council Web sites. Now you can get the email address of your local councillor and give them an earful about the state of the town.

Next to these individual councils are icons based on road signs. Cambridge City Council gets two of these icons – an 'i' and a crossroads sign. The first indicates an A-Z index, while the crossroads icon tells you that the site contains links to other sites.

The links on this site are all checked every month, and the date of the last update is prominently displayed. There are so many links that Charles uses a utility called CyberSpider.

"It's a good product that gives detailed reports on the state of the

SITE SPEC

www.oultwood.com/localgov

CREATED BY
Charles Sale

LAUNCH DATE
July 1998

CURRENT SIZE
2.25Mb

DEVELOPMENT TIME
One year

NUMBER OF PAGES
190

MOTIVATION
I was frustrated by what councils were putting on the Web and I wanted to learn how to write HTML.

WHAT NEXT?
I'll be extending the local government index and removing the Y2k pages soon – for obvious reasons.

internal and external links," he says. The navigation bar also carries a date, but this indicates when the information was amended. The 52 year old local government officer has taken great care to ensure his site doesn't frustrate visitors – he's had enough of that himself. For this reason he created the site in straight HTML using Notepad.

Charles says he created the site because all the local government sites he visited were so poor and used large graphics.

This site proves that if you lavish a little thought and care on your site – rather than throwing money at it – you'll reap greater rewards. The amount of visitors the site gets is testimony to this.

Charles estimates the index gets around 250 users a day, viewing four pages each. This is some achievement for someone who's only just entering the second year of his ISP subscription.

LOCAL GOVERNMENT COUNCIL WEB SITE INDEX SCORES...

Design ★★★★★
Content ★★★★★

CHARLES RECOMMENDS

The Canadian Inter-Government information kiosk
www.intergov.gc.ca
Suffolk County Council
www.suffolkcc.gov.uk
CCTA Government Information Service
www.open.gov.uk



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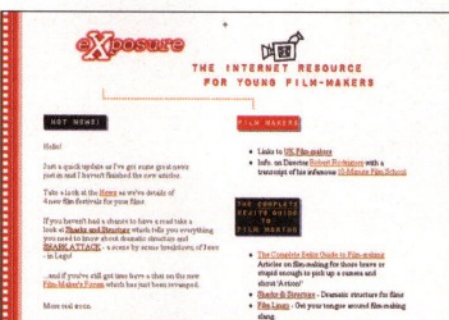
www.autobytel.co.uk

Changing the way Britain buys cars

An excellent site full of sharks, Lego, bullets and film know-how from Dale Murchie

Always include an email address on your Web site. Visitors will identify anything that's going wrong on the site, such as pictures not appearing properly. This feedback can be particularly useful on big sites where the owner can't keep track of all the contents.

Sites with splash pages can either be effective or irritating. This site is the former. It succeeds because it's simple but effective. No matter what the duration of the splash sequence, always include a link so that visitors who don't want to watch the animation can go straight to the main page.



I had a set of very sturdy 5 x 4 inch metal plates made up (which are usually backed with foam to cushion the actor). A squint, which is a squint, consisting of a small metal plate with a small hole in the middle, is used to hold the squint in place.

Many search engines, including AltaVista and Look Smart, use META keywords to identify the site in searches. This site doesn't use them so it'll have difficulty attracting new visitors. Careful use of META tags could put your site top of the list.

This site suffers from some poor navigation. Visitors want to move about a site freely, without always using the Back button.

October 99 Internet Magazine **93**

Bryan Talbot

For a great example of a fan site, visit James Robertson's tribute to this graphic artist

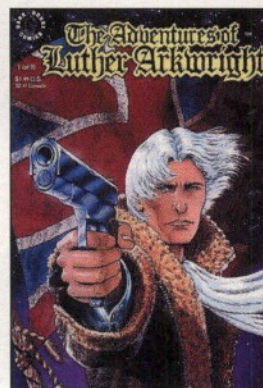
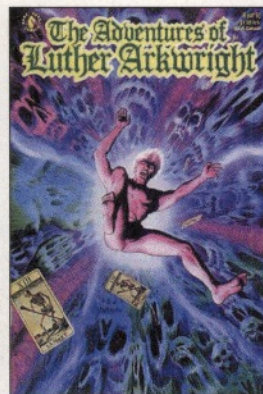
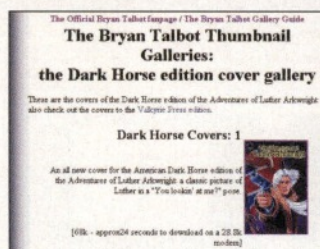
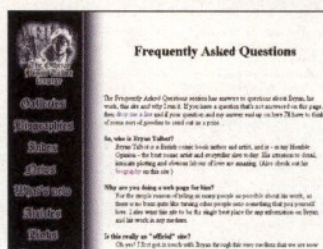
LOGO

This site uses the same logo at the top of every page. The use of a good, strong image helps to give a Web site an identity, and could be turned into an icon for other people to put on their sites as a link. This is exactly what this site has done.



WHITE SPACE

Magazine designers use white space on their pages to avoid straining readers' eyes. Remember that the Web is not a static medium and that white space can seem incongruous. It's also a shame to have to scroll down an extra few millimetres on every page to read information when better use of the page space would have displayed all the material within the browser window.



EMAIL

All sites should have an email link to let visitors give you feedback. This site scores points this. Click on the email link, and it'll open a new message file. This is very easy to add to a page, and is so much easier for people to use than a feedback form.

[email](#)

THUMBNAILS

Large pictures (or any extras that take time to download) are always better displayed in a smaller, quicker format. This site uses thumbnails for big comic graphics, but the same applies to music or video files you want to add to your site.

DOWNLOAD TIMES

When you have big graphics, it's a nice touch to add the download time. This site has included download times for all its images assuming the top speed of a 28.8kps modem.

Many people create a home page to pay tribute to a person or interest. The subject of James Robertson's obsession is Bryan Talbot, a graphic artist who's worked on a variety of popular comic book creations, from Judge Dredd and Nemesis the Warlock in 2000 AD to Batman in *Legends of the Dark Knight*.

This won't mean much if you're not interested in comics, but it's an impressive portfolio. James has created a good relationship with Talbot and one of the first pages on the site carries a complimentary letter from the artist.

TRADE SECRETS



Ed Preedy
director, Loudmouse
www.loudmouse.com

I have to admit that I'm not a fan of using small, bold, white text. But the introduction

page uses this style in its 'Stop press' area. It can be confusing if you enter the site via a link, and painful on your eyes. This is a good site, but I'd advise using floating JavaScript windows on the galleries link. This would provide a frame for the target picture to load into. There's also a lot of information here, so I'd recommend enlarging the text and reducing the amount of content.

James has created a good site, but you'd expect this from an Internet consultant.

There's a depth of information on this site that belies the time he spends working on it – at least two hours a week, but frequently more. "I call it Web therapy because I'm creating more content about my favourite subject," he says. "I told you I was a sad fan boy."

The information is divided into 10 sections. The news area deals with the latest on Bryan Talbot and the What's New section details changes to the site. You'll also find background information to the artist in biographies, the FAQ section and articles. The latter contains pieces written by other Talbot fans as well as the man himself.

The characters area features Talbot's two major creations – Luther Arkwright and Helen Potter. You can examine the key factors in the development of the characters and explore links to in-depth background features and pictures.

The galleries section contains 14 areas covering different characters and comics. Sensibly, all these images are initially displayed in thumbnail format. If you want to see the images in their high resolution glory, simply click on the thumbnail. Be warned, though – you'll be tempted to spend a lot of time looking at these stunning graphics.

SITE SPEC

www.bryan-talbot.com

CREATED BY
James Robertson

LAUNCH DATE
Late 1996

CURRENT SIZE
80Mb

DEVELOPMENT TIME
One month

NUMBER OF PAGES
248

MOTIVATION
I wanted to create a compelling site that I would care enough about to update every week. So I thought about a subject and nothing else came close to Bryan Talbot's work.

WHAT NEXT?
I'm talking to Bryan about selling comics, books and prints from the site. I want to get some chat and discussion going, and I don't see why fans couldn't have an email address of fan@bryan-talbot.com.

James has used a mixed bag of Web tools to create this site. They range from site editors, such as HomePage, PageMill and DreamWeaver, to supplementary tools like Photoshop, BBEdit, GIF Builder, Fireworks and SimpleText. His work has attracted what he'll only describe as 'thousands' of visitors, but his server statistics show just over 120,000 hits in one week, so it's definitely become a popular site.

It's not surprising to hear James saying he loves the Internet. His story is a successful one – he's created a Web site that's become his idol's official Web presence. "Creating the site enabled me to meet Bryan, who is my all-time hero," says James. "Bryan decided to say thank you by including me as a character in his latest comic. Immortality at last!" All this and a page in *Internet Magazine* too.

www.bryan-talbot.com
Design ★★★★★
Content ★★★★★

JAMES RECOMMENDS

Apple
www.apple.com
SETI at home
<http://setiathome.ssl.berkeley.edu>
Calvin and Hobbes
www.uexpress.com/ups/comics/ch

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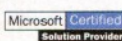
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Internet Magazine has teamed up with Actinic to issue a challenge – create an exciting e-commerce site using a 30-day demo of the new Actinic Catalog 3.0 software and you could win your own full copy (worth £300) absolutely free, and forever.

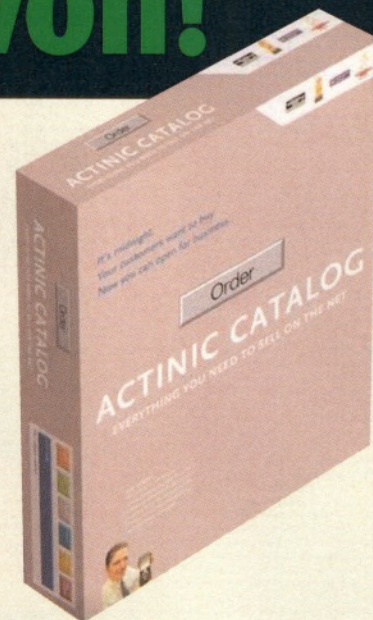
With the right tools and some careful thought, you have the makings of an award-winning, money-spinning site. All you need now is your business idea.

You might want to sell hand-painted terracotta plant pots, or a revolutionary new fishing lure. Perhaps you've invented a home tooth extractor or you want to sell your own hand-printed black and white photographs. Whatever your business, selling your wares over the Web has never been easier.

Install your free copy of the Actinic software and go to work. Winners will be selected by Martyn Moore, editor of *Internet Magazine*, and Chris Bartling of Actinic. Five winners will receive full licensed copies of Actinic Catalog 3.0 and the results will be announced in the January 2000 issue of *Internet Magazine*.

How to enter

- 1) You can either install Actinic Catalog 3.0 from our free cover CD or download a copy from www.zen.co.uk/download (choose the Actinic Catalog 3.0 SuperMall version). You'll also find an advanced user guide and a reviewer's guide on the site.
- 2) Go to www.zen.co.uk/reg to register for a free 30-day trial e-commerce site.
- 3) Try out your ideas for a Web store. You need to design a minimum of a home page and one page of items for sale online.
- 4) Finally, send an email to martynm@internet.emap.com with the URL of your Web store competition entry, plus your name, postal address and phone number.



Rules

The judges' decision is final and no correspondence will be entered into. There will be no cash equivalents to the prizes. Employees and the families of Actinic Software, Zen Internet or Emap Consumer Magazines are not eligible to enter the competition.

Internet Magazine and Actinic are holding a series of seminars this autumn to help you understand e-commerce and realise your business's potential on the Web. For information on dates and venues go to the Actinic Web site at www.actinic.co.uk/seminars.

The closing date for entries is 5 November 1999.

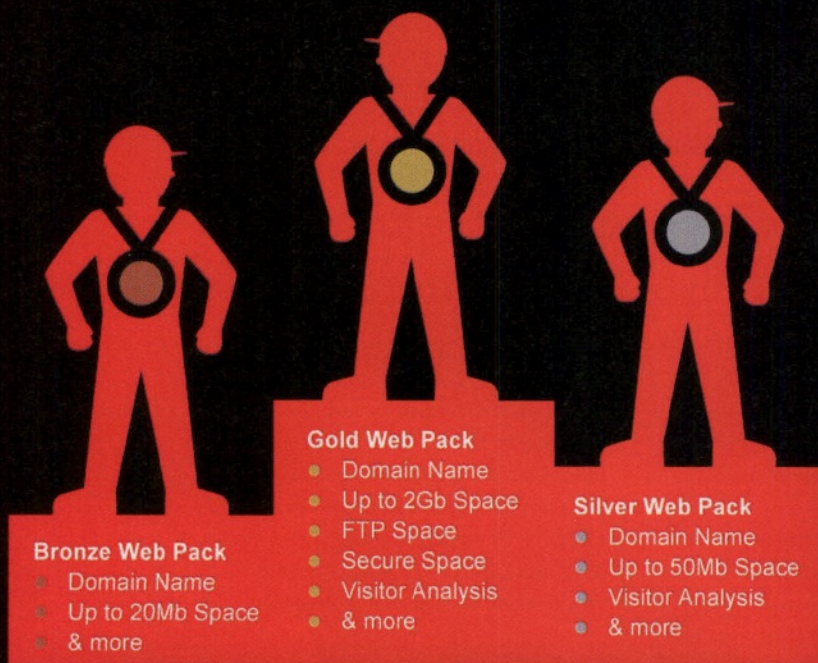
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magazine



SIX TOP TIPS FOR DESIGNING A GREAT E-COMMERCE SITE

- 1 Offer the right products. Sell things that people would normally buy from a magazine page or by mail order.
- 2 Make site promotion your number one priority. If people don't visit, they can't buy. Consider both online and offline marketing.
- 3 Sell-on benefits. A sales site should sell from the moment visitors arrive. You've got to answer the question that everyone has in their mind when they get to your site – what's in it for me?
- 4 Keep the clicks to a minimum. Every time you ask someone to click again, they have the option to forget your site and go elsewhere.
- 5 Address people's concerns. The number one concern is credit card security, so reassure them.
- 6 Provide a physical address and telephone number on your site – this builds confidence and trust.

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Readers' questions are answered by our panel of experts. Send your query to faq@internet.emap.com



Richard Baguley is our associate editor. He'll answer your technical questions on everything from relational databases to digital signatures.



Mike Slocombe has designed sites for clients that include *TFI Friday*, Virgin Radio, the BBC and NCR. He also produces *Urban 75*, an irreverent online magazine. Mike will answer all your Web design queries.



Roger Gann is a freelance computer journalist. If you're having trouble with dial-up networking or your 56K modem isn't talking to your ISP, he's your man.



Michael Chissick is the head of Internet and IT law at Field Fisher Waterhouse. He'll be ruling on your legal problems.



Susan Costello is development director at Rufus Leonard, a brand and communications consultancy responsible for Web sites for Lloyds TSB, Royal Mail, and BT. She'll answer your technical Web site queries.



Andrew Starling is our technology editor. He'll deal with site creation and telecoms queries.

We regret that we cannot answer any queries other than those printed in the magazine.

Your questions answered

If you've got a Net problem, email it to us and we'll field it to our distinguished panel of experts. From Web design to legal advice, we can answer your questions. We'll also be picking the best reader's tip and question to win prizes each month, so get them rolling in

Streaming stuff

Q I read with interest your article on How to broadcast MP3s from your site (August 1999). I'm a Web designer who's new to the world of audio and video streaming, and I was wondering if you could clear something up for me. I thought streaming was only available to sites with large financial backing – due to the cost of professional, dedicated streaming servers.

But having discovered, to my delight, that Real Media files can be streamed through the reference of .RAM files, from an excellent tutorial at www.hypermart.net, I introduced my own streaming media on my band's Web site (www.tellingnet.com/oerken).

But after reading your article, which described a similar technique (of referencing a text file) for streaming MP3s, I'm now a little confused. Does this method work for streaming any file type, such as PLS files for MP3s, RAM files for Real Video, or QuickTime and AVI files? Also, what makes one Web space provider better than another for streaming?

Darren Telling
darren@tellingnet.com

A Richard Baguley replies: It sounds like you're confused – you don't stream PLS or RAM files. A PLS file is just a text file that contains the address of an MP3 file.

If you click on a link to a PLS file (for an MP3 stream), your browser looks at it and says, 'I know what to

do with this. With files ending with .pls, I pass them onto an external program called Winzip'.

It launches Winzip, which opens the PLS file and requests the MP3 file it links to. The Web server then says 'That's an MP3 file. I have to stream this', and it streams it to Winzip, which plays it back. HTTP streaming only works for files that

the Web server knows it has to stream. Not all servers have been set up to do this, but most modern Web servers will do this by default.

Choosing a Web host for streaming is a tough choice – if you're doing a lot of audio and video streaming, you need a host that offers access to a Real server as part of the package. This'll be more flexible and reliable, because HTTP streaming won't be delayed if your site gets busy.

Real has produced a list of some of the possible limitations and



RealNetworks (www.real.com) started the streaming media ball rolling, and its formats are still the best if you've got a lot of material to stream

problems of HTTP streaming at www.service.real.com/help/content/http_ra_summtable.html. Otherwise, it's the same as choosing a normal host. Make sure it's knowledgeable and reliable, and that it performs well in our Web hosting tests (see page 155).

Charity work

Q I'm setting up a page for a charity, and I want to sign people up to a mailing list so they can get access to

In the first issue

Q What is the World Wide Web?

A The World Wide Web (or WWW) is not a physical entity, but a collection of programs and services that make up a relatively user-friendly interface to the Internet. A Web server runs a piece of software written by the NCSA (National Centre for Supercomputing Applications) called HTTPD. This feeds client machines with a hypermedia description language called HTML (Hypertext Markup Language). This language is interpreted by a client program and is used to define text styles, links to other places on the server and other details.

5
today



a newsletter online. How do I set security access for the newsletter? We want people to sign up and provide details about themselves so we can target them for donations at a later date.

Alain

openeves@easynet.co.uk

A Susan Costello replies: The answer depends on the level of security you're looking for, Alain. A high level of protection would require using the '.htaccess' and '.htpasswd' files (or some other server side equivalent, depending on the platform) to set permissions on directories. You'll need to consult your ISP about this. In the meantime, you can find out more about these files at Webpedia (www.webpedia.com/webpedia/tutorials/221/1).

Alternatively, you could set up a JavaScript cookie. When visitors register on your site, the cookie would be attached to their browser. When they go to your newsletter page, your Web page would ask their browser for the registration cookie. If it's there, you can give them access to the page. If it's not, you can direct them to your registration page. For more information about setting and retrieving cookies, go to www.javascrip.com.

Free access across the world

Q Do any of the free ISPs provide access numbers for use outside the UK? This would let people use their laptops when they're travelling – as I do in Spain.



Internet access for the price of a phone call is now available in Spain from Teleline. Ole!

www.internet-magazine.com

Top reader's tip wins £200 voucher

In your news item on computer rage (July 1999), you listed your top 10 causes of Internet rage. Number four was a 2Mb file download that crashes with just 30k left to go. Programs like GoZilla (www.gozilla.com) and GetRight (<http://getright.com>) can be used to resume your downloads or import broken ones and are available as freeware.

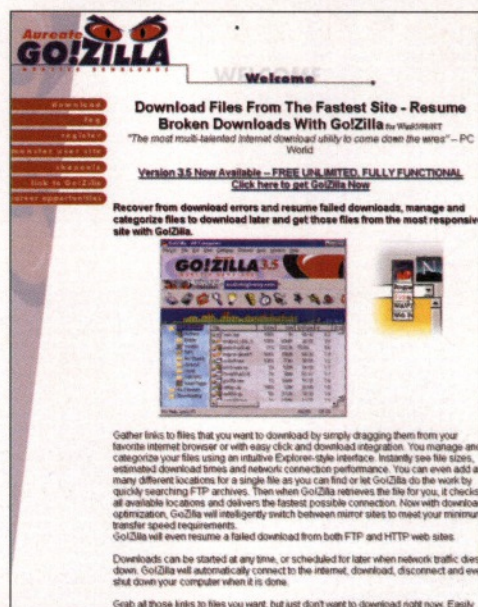
Even if you lose your connection with only 10 seconds left of a 2Mb download, you can reconnect and start from where you left off. I've found this software useful, particularly when I'm downloading demo software from the Web, which can be more than 50Mb. You can pause your download, go out, come back and start it up again.

Steve Mills

Phillip.Mills@btinternet.com

Thanks for your tip, Steve. GoZilla is deservedly popular and is a great way of avoiding computer rage. Its devotees are calm, mild-mannered and sleep well at night.

unbeatable.co.uk



Relieve the pain of broken downloads at www.gozilla.com

Also, do any of the free ISPs issue software on floppy disks, or offer downloads that wouldn't swamp my small ICL laptop with Windows 3.1? Or should I consider a hardware transfer from my PC at home?

Ron Berry

Berries@talk21.com

A Richard Baguley replies: I'm not aware of any free ISPs that offer free international calls. There are some free ISPs springing up in Europe, so you could use their services. In Spain, the state telephone company, Telefonica, offers a free subscription service – you can get details, in Spanish, at <http://teleline.ole.com>.

The CDs that most ISPs supply to new customers contain Windows 3.1 software, so you could connect a CD-ROM drive to your laptop and install it from there. This could also be done over a network or a parallel port connection, as you've

described. Several ISPs offer support for Windows 3.1 on floppy disks – you'll have to ring them and ask for it. But you might not even need this – if you have TCP/IP software installed, just set it to dial the number for one of the free ISP services, such as BT ClickFree on 08457 576 333. This doesn't even require a username or a password.

FTP'd off!

Q I used WS_FTP95 to upload my Web site to my university server without a problem, but whenever I try to upload GIFs or JPEGs to my Freeserve Web space, the connection is immediately lost and the message 'Failed Data Channel' appears. I know Freeserve instructs you to use Auto mode, but the binary radio box also remains checked. I've tried using Passive mode, but it makes no difference. Can you help?

Tom Salmond

Tom@salmond.freeserve.co.uk

A Roger Gann replies: How odd. If WS_FTP works for one host, it should work for them all. The Auto mode is designed to detect whether the file you're uploading is ASCII or binary, and it sets the mode accordingly. Check your Extensions tab to make sure all your ASCII file type extensions are listed – this is important because all other file types will be sent in Binary mode when Auto is selected. Make sure logging is turned on – you can examine your logfiles for clues.

Selecting the transfer mode is an 'either/or' choice – when you select Auto, it should deselect any other mode you've chosen – which isn't happening for you. Try uninstalling WS_FTP and reinstalling it to see if this cures its erratic behaviour.

Freeserve recommends using Terrapin FTP for uploads to its Web space. And don't forget that



You'll find all you've ever wanted to know about cookies at www.javascrip.com

Windows 9x comes complete with a character mode FTP utility. It's a pain to use, but it works perfectly well when push comes to shove.

Colour blind

Q I understand RGB, but what do people mean by Web safe colours? And what do they mean by Web safe fonts? I know the big three, but there seems to be an infinite amount available.

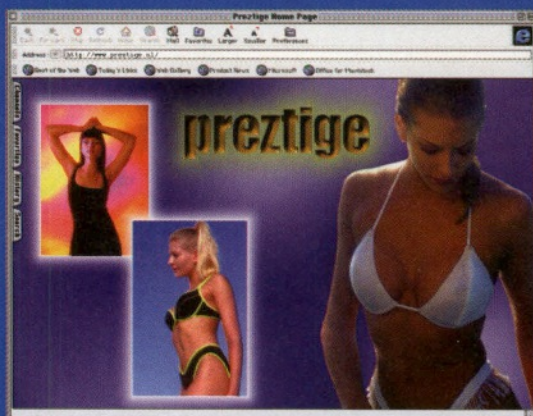
Roger Sharp

RSUK@compuserve.com

A Mike Slcombe replies: The 256 colours used by Macs and PCs running Netscape and IE are collectively known as the Web safe palette. If you use colours outside this palette on a 256 colour monitor, you get undesirable dithered effects, where colours are crudely mixed together to give the impression of another colour.

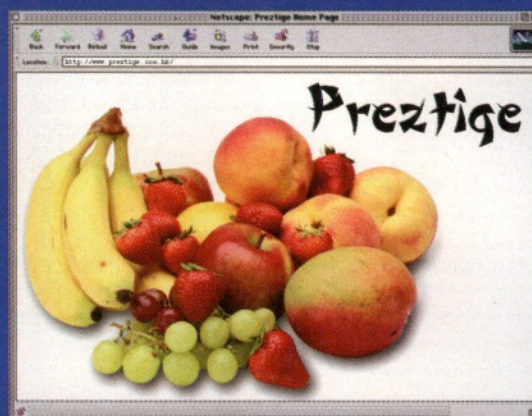
In HTML, colours are expressed as either hexadecimal values (such as #FF0000) or as colour names (such as yellow). Tests have revealed that PCs running Internet

And you thought it was *your* company name.



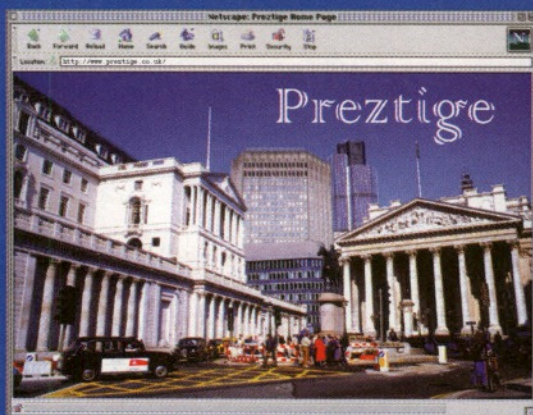
www.preztige.nl

(ADULT ENTERTAINMENT SERVICES, AMSTERDAM)



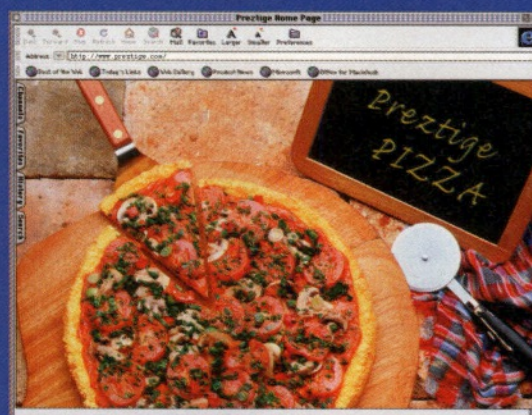
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(FRUIT WHOLESALERS, HONG KONG)



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Browser-safe Color Palette by Value

This chart requires Netscape 3.x or Internet Explorer 3.x to display properly.

FFFFFF	FFFFCC	FFFF99	FFFF66	FFFF33	FFFF00	CCFFCC	CCFF99	CCFF66	CCFF33	CCFF00
99FFFF	99FFCC	99FF99	99FF66	99FF33	99FF00	FFCCFF	FFCC99	FFCC66	FFCC33	FFCC00
00FFFF	00FFCC	00FF99	00FF66	00FF33	00FF00	FFCCFF	FFCC99	FFCC66	FFCC33	FFCC00
33FFFF	33FFCC	33FF99	33FF66	33FF33	33FF00	CCFFCC	CCFF99	CCFF66	CCFF33	CCFF00
CCFFCC	CCFF99	CCFF66	CCFF33	CCFF00	CCFFCC	CCFF99	CCFF66	CCFF33	CCFF00	CCFFCC
FF9999	FF9966	FF9933	FF9900	FF9999	FF9966	FF9933	FF9900	FF9999	FF9966	FF9933
00CC99	00CC66	00CC33	00CC00	00CC99	00CC66	00CC33	00CC00	00CC99	00CC66	00CC33
CC9933	CC9900	CC9966	CC9999	CC9933	CC9900	CC9966	CC9999	CC9933	CC9900	CC9966
FF6633	FF6600	FF6666	FF6699	FF6633	FF6600	FF6666	FF6699	FF6633	FF6600	FF6666
FF00FF	FF00CC	FF0099	FF0066	FF0033	FF0000	FF00FF	FF00CC	FF0099	FF0066	FF0033
FF00CC	FF0099	FF0066	FF0033	FF0000	FF00CC	FF0099	FF0066	FF0033	FF0000	FF00CC
FF0099	FF0066	FF0033	FF0000	FF0099	FF0066	FF0033	FF0000	FF0099	FF0066	FF0033
FF0066	FF0033	FF0000	FF0066	FF0033	FF0000	FF0066	FF0033	FF0000	FF0066	FF0033
FF0033	FF0000	FF0033	FF0000	FF0033	FF0000	FF0033	FF0000	FF0033	FF0000	FF0033
FF0000	FF0000	FF0000	FF0000	FF0000	FF0000	FF0000	FF0000	FF0000	FF0000	FF0000

Web-safe colours look the same on all types of browser, but they rarely look the same on different computer screens

Explorer can't render some colours, bringing the palette down to 212 colours. For more details about Web safe palettes, go to www.lynda.com/hex.html, <http://stars.com/Authoring/Graphics/Colour/Resources.html> and www.builder.com/Graphics/CTips/ss01.html.

You can download a Web-safe palette for Photoshop from <http://download.macromedia.com/pub/dreamweaver/basics/colorpicker.zip>. Or an onscreen representation at www.primenet.com/~thoward/clrs_val.html.

There's no such thing as Web-safe fonts, as they must already be installed on your PC to appear on your browser. But a combination of Arial, Helvetica, Verdana and sans-serif – with Times New Roman, Times and serif – would produce sans-serif and serif fonts on most PCs. These fonts can be specified in the `` tag, but you should specify them with style sheets.

See www.roga.demon.co.uk/author/css.htm and http://webreview.com/wr/pub/Style_Sheets for more information.

The latest browsers let you embed your own choice of font onto a Web page, regardless of whether your visitors have them installed or

not. But this technology is still in its infancy and is at the whim of Netscape and IE incompatibilities. See Bitstream's pages at www.bitstream.com/products/developer/truedoc/td_embed.html.

Upgrade slowed down my modem

Q I've had connection speed problems since upgrading to Windows 98. Before this, my connection speed never dipped below 44Kbps, but when I upgraded to Windows 98, my modem changed from being identified as a US Robotics 56K to a Winmodem. I can only connect at 33Kbps now.

My ISP, Netcom, has been very helpful. It checked my connection to make sure BT hadn't interfered with my lines and suggested updated drivers to re-install my modem as a US Robotics product.

Gateway, my PC manufacturer, has been friendly, but hasn't solved the problem. It told me to go to its site to download the latest drivers. I've also visited the US Robotics/3Com Web site and I've run its Internet Update wizard, which says I have the best available driver for my modem, still identified as a Winmodem.

I can manually override the modem settings by going through the modem icon and updating the modem and drivers, but as soon as I restart my system, it finds new hardware and re-installs it back as a Winmodem with maximum connection speeds of 33Kbps. Can you help?

David Shave
mexico@netcomuk.co.uk

Technical Support
Desktop / Tower
Driver Downloads

Windows 98 modem drivers.
Click filename to download

Filename	Driver for	Size
gpl.exe	CPI modem	53 kb
GVCVer47.exe	V47 for GVC modem	322 kb
Win9858.exe	GVC Winmodem	336 kb
TORNADO.INF	Inf file for Tornado modem	24 kb
Usr.exe	USR modem	1.04 Mb
Usr9558.exe	USR In 58k modem	552 kb
Upgrade90.exe	Upgrade to V90 for USR	710 kb

Check you've got the right driver for your modem. Most drivers are available from the Web sites of the PC manufacturers and modem makers

Top question wins a pager and Mini-Mail service

How do I add that *je ne sais quois*?

Q I want to have Web pages in multiple languages, starting with French and English. What's the most economical way in terms of Kbytes to give people the opportunity to choose their native language? Do I need to create two different sets of pages? Can I swap the text without changing the graphics and layouts?

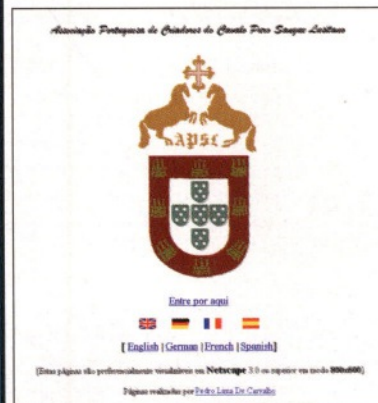
Julien Van Dommelen
zarasang@hotmail.com



A Susan Costello replies: The proper way to do this is to divide your pages into elements (images, text and links) and store these elements with attributes describing what they are in a database. You can then dynamically produce a page with the text in the language of your visitors choice. But

as you can imagine, this is not the cheapest method.

Alternatively, use a simple layout for your pages – make sure the text can expand and contract without having a detrimental effect on the rest of the page. Create an HTML template with the text areas clearly identified. Use a separate frame for the navigation. Keep all your images in a directory at the root of your Web site, so you always reference them at one level above the current page, such as `../IMAGES/mypic.gif`. Start with your first



The Portuguese Lusitano Thoroughbred (horse) Breeders Association (at www.cavalo-lusitano.com/cavalo-lusitano) is available in four languages

language, duplicate all the HTML pages into separate directories and replace the text with the correct language. Don't rename the files to ensure your links still work. Your directory structure could look like this: `index.htm` (the home page with links to language directories below)

`IMAGES\ (containing all the common images)`
`FRENCH\index.htm, nav.htm, page1.htm, page2.htm`
`ENGLISH\index.htm, nav.htm, page1.htm, page2.htm`
`GERMAN\index.htm, nav.htm, page1.htm, page2.htm`

Make sure that every time you make a change to a page, you also change all the different language versions.

A Roger Gann replies: Without more information on precisely what sort of modem is fitted in your PC, I can't offer you a definite solution to your problem, David. All sorts of things could cause the drop in your modem's performance.

Line conditions and problems can cause variable connect speeds. BT could be multiplexing your line without your knowledge, and that prevents V90 modems from running at full speed. Try borrowing a friend's modem, installing it and seeing what sort of connect speeds it delivers over your phone line.

The maximum speed of your modem might be set to only 33Kbps. Check the properties of your Winmodem in the Modem Control Panel applet and ensure the maximum speed is set to 115200.

Winmodem is a cheap internal modem that uses the PC's processor for its signal processing, thus saving a few quid on the purchase price. It's heavily dependent on driver software to make it co-operate with the PC host. It looks like the upgrade to Windows 98 got the identity of the modem wrong and 'upgraded' your modem with the wrong driver.

As you can see from Gateway's Web site (www.gateway.com), there are half a dozen Winmodem (aka 'Telepath') drivers available – each one is intended for a specific, part-numbered modem.

The only way to tell what sort of internal modem you've got inside your PC is to take the cover off, remove the modem card and read the part number label. This is the only way you can be 100 per cent sure you're using the right drivers, so check this on the site.

If you don't want to do this, open the Modem applet in the Control Panel and remove the modem entry. Reboot Windows 98 and let it redetect the modem at boot time. Failing that, 'add' a new modem, using the same Modem Control Panel applet, specify 'Have Disk' at the appropriate moment and navigate to the folder containing the downloaded drivers.

You can always look for the original Gateway modem driver disk that came with your PC.

Exchanging exotic ideas

Q My ISP, Callnet, uses the same number for 56k speeds as it does for all other modem speeds, and I can't get a speed above 33k. This is the reply I got from Callnet when I asked why my 56k modem was only connecting at 33Kbps:

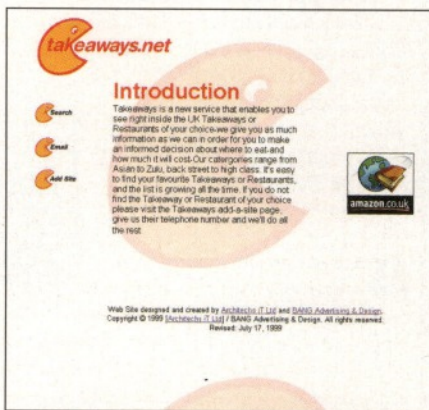
"Calls from one point to another on the telephone network take different routes. Depending on where you live and the route taken to our equipment, your connection speed can vary. Any modem working above 33k is susceptible to noise, depending on the type of telephone exchanges it passes through.

Unfortunately, we don't have control over the route taken for your call to arrive at our equipment. The equipment is 56Kflex/V90 compatible. We've noticed better connection rates with V90. Also, adding three or four commas to the phone number can sometimes help, such as 0845 3011599,...."

How true is this, and is there any way to resolve my problem?

Andrew Orszynski
asorsz@i.am

A Roger Gann replies: There's a grain of truth in your ISP's exotic explanation – V90 connect speeds depend on line quality. If your phone line is noisy, connect speeds can suffer. Line multiplexing has to be a prime suspect in your case. When BT



Make sure you own the copyright to your Web design

installs lines, it sometimes uses a technique known as multiplexing to run two phone 'lines' down one cable. This requires the installation of a DACS-2 (Digital Access Carrier Service) box.

While multiplexing is adequate for voice traffic, it's the kiss of death for V90 modem speeds. All V90 modems rely on an unbroken analogue link to the exchange. Any digital to analogue conversions (such as those introduced by DACS) mean the V90 magic can't work and you're limited to 33k speeds. So check with BT to see if the dreaded DACS is installed on your line.

To be thorough, check your modem settings to make sure they're set at full speed. You should also install the latest V90 firmware from your modem manufacturer's Web site. You can also try using a different phone line, if possible, or borrowing a friend's modem.

Adding commas to the dial string is new to me. Commas introduce a pause of about half a second to the dial string – they're usually included to give time for the phone system to get its act together. So if you have to dial 9 for an outside line, you'd add 9 to the start of your number to allow time for the external dial tone to kick in. I don't know what adding a few seconds delay after you've dialled would do.

Who's site is it anyway?

Q I have a Web site (www.takeaways.net) that's been

created by Architects I.T.L.T.D. The logo was designed by Bang advertising and design. Both parties followed my general instructions throughout the design, layout and function of the Web site and have now been paid for their work. I'd like to know who owns the copyright to the Web site and the graphics that appear on it.

Paul Barrett

paul_barrett@lineone.net

A Michael Chissick replies: Under English law, the author (or creator) of an original piece of work, such as a Web site design, owns the copyright. There's an exemption for work created during employment. It's therefore essential that whenever you engage an outside party to develop a copyright work, such as a Web site, you create a written agreement that says the copyright is transferred to the person commissioning the work (you).

In the absence of such an agreement, the company that undertook the design owns the copyright, and you might only have a licence to use the designer's copyright for reasonable commercial purposes, such as on your Web site.

That's a wrap

Q My question is about images with wrap around text. I've seen an example of this effect on the Photoshop User Web site (at www.photoshouser.com). There's a picture of one of its magazine covers on the home page, and the text to the right seems to be wrapped around. I opened the source code in Dreamweaver, but I'm still not sure how it's done. I'd like to use this effect, so any advice you can offer would be appreciated.

Brett Lockhart
blockhart@globalserve.net

A Andrew Starling replies: It's a simple trick. The HTML code for the picture you've mentioned is ``.

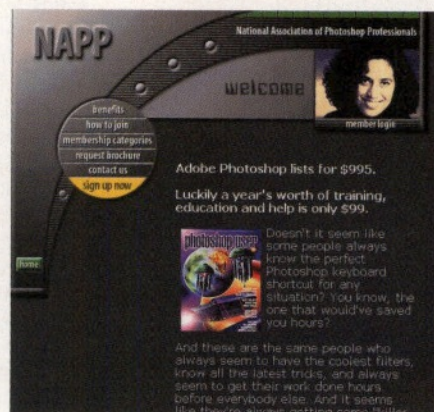
The crucial bit of this code is `align="left"`. If you use this, any text immediately after the picture will wrap around on the right. You can do a similar trick using the picture and text the other way round, using `align="right"` instead of `align="left"`.

The example you've chosen is perfect for explaining why designers don't use this trick more often. If you change the font size on your browser – using the View menu on either Netscape Communicator or Microsoft Explorer – you'll eventually bust the wrap, so the last line of text appears as a straggler beneath the pic (see below).

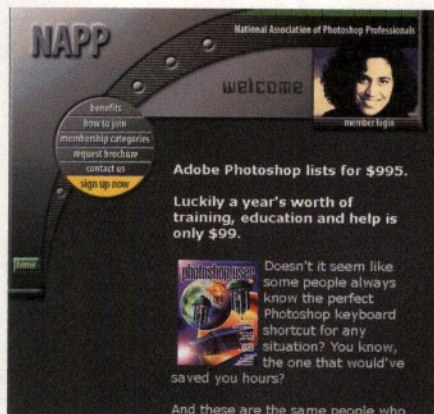
If you're going to use a wrap, make sure you only use a limited amount of text. Otherwise, put the pic and the text in two separate cells of a table, then you can guarantee the alignment will never look odd.

Clearing out your rubbish

Q I tried installing the Netscape browser from your August cover disk, but when I clicked on



A lovely wrap for the text next to the cover shot. But change the font size on the browser and...



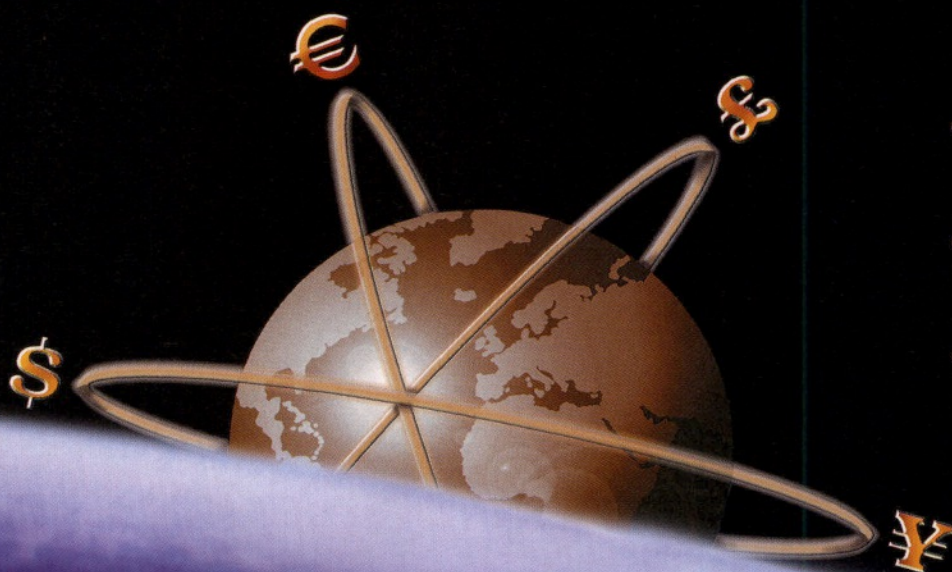
...Oops, a straggler appears, ruining the intended wrap

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ACTINIC e-asy to do business with.

'install', I got the message "install failed at %o - perhaps there is insufficient space in the temp directory".

My Pentium PC runs Windows 98 and has over 5Gb of free space on the hard disk. Weird.

Alfred Douglas

therapies@easynet.co.uk

A Andrew Starling replies:

You'll find lots of temp folders on your PC. The most important are C:\TEMP and C:\WINDOWS\TEMP. It's probably best to leave the C:\TEMP file alone.

But the C:\WINDOWS\TEMP file needs clearing out, probably just once a year. It gradually fills up with rubbish, and if you don't do something about it, it can prevent your machine from installing software properly.

There are two methods of cleaning your temp file. One is to

attempt to delete everything in it. Your computer will probably refuse to delete some of the files, but don't worry about this.

You need to identify which files can be deleted and which cannot. This is because your cleaning attempts will fail if a group of files aimed at the wastebasket contains an undeletable file.

The other method is pretty lazy, but it's fast, and you'll be tempted to use this when an installation fails. You simply change the name of your existing TEMP folder to TEMP2, or something similar, and create a new folder named TEMP, which will be empty.

If you've got more disk space than free time, you shouldn't be afraid of using this method, even if it means your computer purist friends will stop returning your calls and start sneering at you in the street.



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Legal brief: New laws on e-commerce

The Government has released its proposals for an Electronic Communications Bill. **Michael Chissick** looks at how the legislation would affect the Internet

The Government is proposing new legislation on e-commerce that would affect ISPs who use encryption techniques. The Department of Trade and Industry, which is sponsoring the Bill, is setting targets for 90 per cent of Civil Service procurement to be done electronically by 2001, while 25 per cent of Government services are to be available through the Net by 2002.

The Government has had to weigh the DTI's ambitions against the Home Office's concerns about beating fraud. Initial ideas, such as key escrow for cryptographic service providers, were heavily criticised by the DTI Select Committee. And some of the original restrictions have been scrapped as a result of public pressure.

A Bill on Electronic Commerce sounds like an exciting, upbeat kind of legislative development, but as the Internet Service Providers Association (ISPA) has noted, only three of the draft Bill's 23 pages are devoted to promoting e-commerce.

An electronic signature will be admissible in court as evidence, provided it's certified as authentic. This'll remove some of the doubt about the legality of transactions online, but it's some distance from officially recognising that an e-contract is as good as a contract made on paper and signed in ink. Proposals for electronic signatures to be subject to a presumption of validity have been dropped.

There are also clauses giving ministers the power to change the law, so transactions which normally have to be done on paper forms can be done electronically - such as applying for driving licenses or work permits. The new powers will not apply to the Inland Revenue and Customs & Excise, so tax returns and VAT forms will have to be done in the usual way.

A notice can be given to an individual which will require the key to material to be disclosed. A limited group of officials is given permission to issue these notices. It includes police officers and members of Customs & Excise.

A criminal offence is committed if the protected material is not handed over, although a number of defences are set out. These include not having the key in one's possession any more, or the fact that it was "not reasonably practicable" for the disclosure to be made within a certain time.

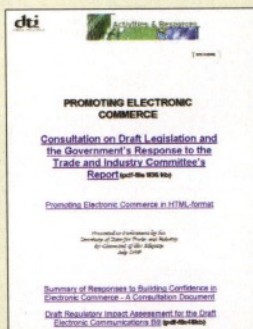
Incidentally, the Home Office also has its eye on service providers in relation to bugging (or interception of communications).

It's recently issued a consultation paper proposing that the interception regime is expanded to include independent service providers. Currently, only licensed network operators are subject to orders to enable bugging.

The draft Electronic Communications Bill is likely to increase consumer confidence in e-commerce by giving it some statutory sanction. But many of the proposals, such as the licensing regime for cryptography services, are unlikely to affect most consumers who use cryptography services. In this regard, the draft Bill is a lost opportunity for providing statutory backing for a complete legal framework for e-commerce.

If you'd like to express your views about the proposed Electronic Commerce Bill, you can email the DTI at ecbill@ciid.dti.gov.uk.

Michael Chissick is head of the IT and On-Line Law Group at City law firm Field Fisher Waterhouse. He can be contacted at mpe@ffwlaw.com



It's destined to be the most important Internet legislation the Government's introduced. Check it out at www.ti.gov.uk/cii/elec/ecbill.html

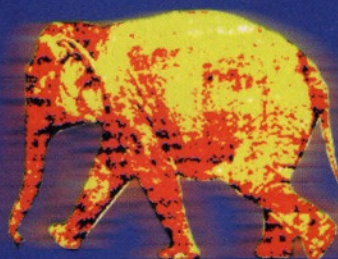
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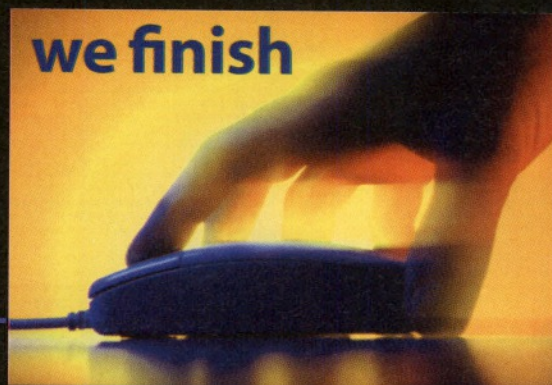
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Y2K checks and fixes from the Web

We've all heard scare stories about the Millennium Bug. But practical advice about how to protect your computer is rare, unless you read *Internet Magazine*. Roger Gann takes you through the danger areas and offers easy to use solutions from the Web

For PCs, the Year 2000 problem can crop up in three areas – your hardware, your operating system and the applications you run. You should also examine your personal data files, paying particular attention to spreadsheet and database files, both of which could use date-based calculations.

Hardware

Your first priority is to check if your computer's hardware is Y2K-compliant. If you're still using an original, pre-AT (IBM's first 286-based PC), IBM PC or similar, running a recent version of MS-DOS, you should be Y2K-compliant. Mac users can also relax on New Year's Eve – the internal clock in all Macs will be accurate until at least February 2040. The latest Macs will be safe until the year 29,940.

Sadly, most current PCs are not strictly Y2K-compliant. The older your PC, the more susceptible they are – but newer machines could still have problems. The compliancy issue with PCs goes back to 1984, with the launch of the IBM PC-AT. This model featured a battery-backed Real Time Clock (RTC) that

used digital watch technology to store the date and time. This meant every time you turned on your PC, you no longer had to key in the date and time – the operating system retrieved it, via the BIOS (basic input/output system) from the Real Time Clock.

Typically, the RTC contains seven data areas that store the time and date. The first six are updated automatically, whether your system is on or off, with each storing a different value – seconds, minutes, hours, days, months and years. The problem lies in the seventh area with the years register – only two digits are stored here.

This area stores the century data – 19 or 20. The catch is that the RTC doesn't update the century 'registers' automatically. It's reliant on something else to make the change from 19 to 20 at the right moment. And that something is typically the BIOS.

If a PC boots up after 31 December 1999, the BIOS should edit the RTC registers, replacing the 19 with a 20. Or, at the very least, it should recognise that the 19 is wrong and produce a 20 whenever the operating

DIY hardware testing

It's easy to test your PC's Real Time Clock for Y2K compliance and takes no more than a few minutes. Most Y2K diagnostics programs automate this process for you, which is why most are available as freeware.

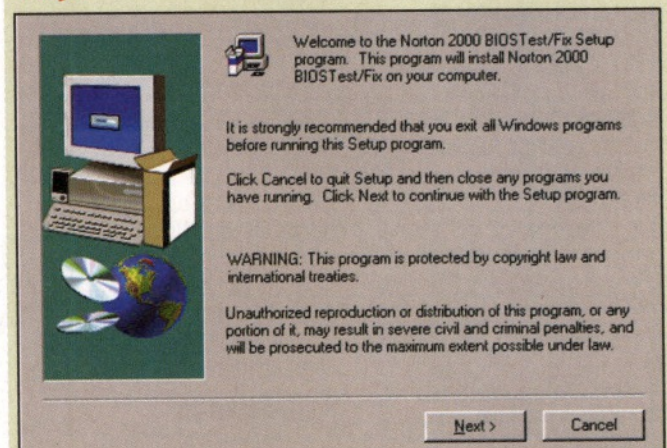
First, go to a DOS prompt and use the TIME and DATE commands to set the clock to 23:59, 31 December 1999. Let it run for a couple of minutes to make sure the

year 2000 rollover works correctly. Then set the clock to 23:59, 31 December 2000, and make sure the year 2001 rollover works too.

Finally, reboot your PC while it still thinks it's 1 January 2001, and see if the date remains the same. Some Y2K diagnostics programs will report rollover as a problem, but all you need to do is reboot your PC on New Year's Day and reset the date manually to 1 January 2000.

Using the Norton 2000 BIOS Test/Fix

Step 1



The first step is to visit www.symantec.com/sabu/n2000r/n2000_ret and click the icon at the bottom of the page to download the software. When it's finished, double-click on the downloaded file. The installation wizard begins. Click on Next to continue.

Step 2



The Norton BIOS Test/Fix is one of the few freebies that includes a software fix for non-compliant BIOSes – this screen lets you select some options for the fix, if required.

Y2Klog - Notepad

Ontrack(R) Y2K Advisor
Diagnostic Report File
Aug. 28, 1999 at 3:19:28 p.m.

System Information

Processor type: Intel 80486 or equivalent
BIOS Manufacturer: Microid Research, Inc.
BIOS Build Date: 01/14/96

Test Performed	Result
Manual Set Test.....	PASSED
BIOS Roll-Over from 1998 to 1999.....	PASSED
BIOS Roll-Over from 1999 to 2000.....	*FAILED*
Leap Year Test for 2000.....	PASSED
Leap Year Test for 2004.....	PASSED
Non-Leap Year Test for 2001.....	PASSED
Non-Leap Year Test for 2002.....	PASSED
Non-Leap Year Test for 2003.....	PASSED
Non-Leap Year Test for 2005.....	PASSED
RTC Roll-Over from 1999 to 2000.....	*FAILED*
Power-Off Roll-Over Test.....	*FAILED*
Date Retention Test.....	PASSED

The Ontrack Y2K Advisor (www.ontrack.com/op/op_6.asp) is one of the best Y2K checkers available – it creates a boot disk to run the tests and catalogues its findings in a detailed logfile. Here, an older PC has failed three of the tests

system requests the date. But if the BIOS fails to update from 19 to 20 at midnight on New Year's Eve, the year – according to the RTC – will be 1900 and not 2000.

Rollover

Some PCs that are left on at midnight on New Year's Eve 1999 could fail to change the date correctly from 1999 to 2000. As far as Microsoft is concerned, the PC world began in 1980 and, as a result, DOS and Windows interpret a 'BIOS' date of 1900 as 1980.

That said, Y2K hardware problems are not the end of the world – they're simple to spot and fix, and at little or no cost. If your PC has a flash-upgradeable BIOS, this can often be upgraded via software which you can download from the Web for free.

If you can't get a BIOS update, and your PC has a rollover date problem, simply turn off your PC on New Year's Eve and boot it up the next day. If the date is wrong, you can enter the correct date in the CMOS (Real Time Clock) Setup or from a DOS prompt.

Software

PC software falls into two categories – your operating system and your applications, and both can have Y2K problems. To determine Year 2000 readiness, you'll need to know the operating system you're using and its version. For Windows 98, Windows 95 and Windows NT, the exact version number is listed directly below 'Microsoft Windows XX' on the General tab of the System folder in the Control Panel.

DOS

If your PC is more than five or six years old, you're probably still running the original PC operating system, MS-DOS. Now, according to Microsoft, MS-DOS is 'compliant

with minor issues,' so it's almost compliant but not quite. Microsoft says it has no plans to release fixes for these minor glitches.

To be absolutely strict about this, Microsoft warrants the near compliance of DOS in respect of the English versions of MS-DOS 6.21 and MS-DOS 6.22 – all previous versions are not under warranty to be Y2K compliant.

Windows 3.1x

Windows 3.1 was simply a GUI front-end for DOS, and DOS is reasonably Y2K-compliant, so there are relatively few Year 2000 problems with Windows 3.1x. Put another way, the problems DOS has with Y2K will occur in Windows 3.1x. The biggest problem seems to be with File Manager, which can garble dates later than 1999.

Windows 9x

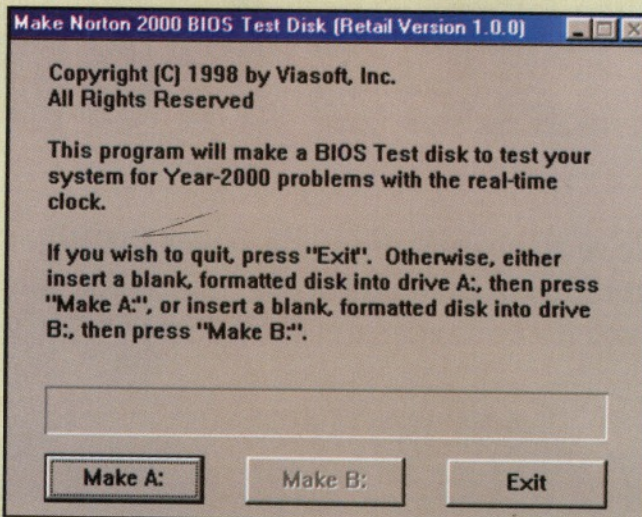
Just about every version of Windows, from CE to NT, has some Y2K issues. You can correct most of these with free patches or updates, and others by changing Control Panel settings or by using your operating system differently (by always entering non-ambiguous four-digit dates, for instance).

Surprisingly, given its tender age, Windows 95 is decidedly not Y2K-compliant in many areas. There are a whole host of date-related bugs relating to all versions of Windows 95.

Updates are available from Microsoft's Web site that fix the Y2K shortcomings in the various versions of Windows. If you have Windows 3.1x, you can download WFWFILUP.EXE to cure the date problem with File Manager. If you have Windows 95, you'll definitely need the Windows 95 Year 2000 Update, available from www.microsoft.com/windows95/downloads.

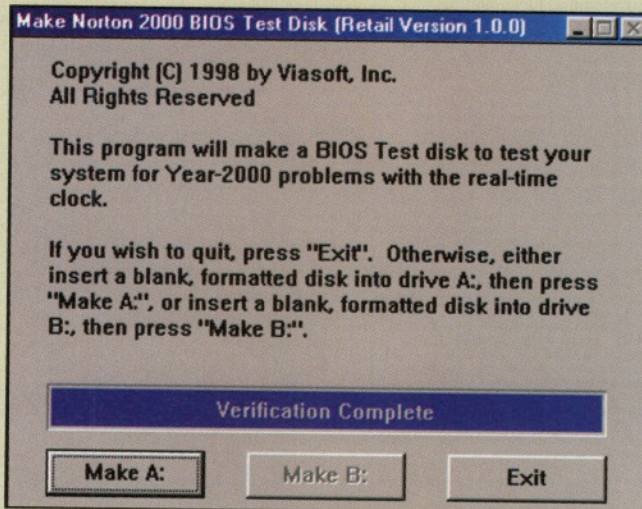
Using the Norton 2000 BIOS Test/Fix

Step 3



The next stage is to make a diagnostics floppy – insert a blank floppy disk in the drive and click the appropriate option.

Step 4



When the process is complete, the floppy disk is verified.

Step 5



Using SysEdit, you can see that the Norton BIOS Test/Fix has added a small device driver to your CONFIG.SYS startup file. This 'fixes' your non-compliant BIOS.

If you use Windows 98, the simplest way to update is via Windows Update – it'll automatically detect which program and system files need to be updated, and it'll download and install them for you. Or you can visit www.microsoft.com/windows98/downloads/corporate.asp

download the Windows 98 Year 2000 Update and the Windows 98 Year 2000 Update 2. If you use Internet Explorer 4.01, you should download and install the IE 4.01 Service Pack 2.

Most recent Windows operating systems, such as Windows 98, Windows NT 4.0 and Windows

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35th	Scotland Online	69	98.80%
54th	Corpex	49	98.74%
68th	RapidSite / Verio	19	99.39%

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Other diagnostic software

Holmes Fx

Changes RTC from 1900 to 2000.

www.wsnet.com/~designer/holmesfx

PCfix2000

At boot up, PCfix2000 recovers the valid date for the operating system, CMOS (real time clock) and basic input/output system (BIOS) chip and provides automatic date adjustments and recovery without disruption of workflow for your PC.

www.pcfix2000.com/1_cart/pcfix2k.html

Y2K Test (DOS)

Y2K Test checks your DOS operating system for Year 2000 compatibility. It'll reboot your computer three times and perform a series of tests to determine if your PC's Real Time Clock, BIOS, and operating system have what it takes to operate smoothly at midnight on 31 December 1999.

www.zdnet.com/chkpt/hud0001100/www.zdnet.com/zdy2k/1998/09/4550.html

Y2K Test (Windows)

Y2K Test checks your PC for Year 2000 compatibility. It'll reboot your computer three times and perform a series of tests to determine if your PC's Real Time Clock has what it takes to operate smoothly at midnight on 31 December 1999.

www.zdnet.com/chkpt/hud0001100/www.zdnet.com/zdy2k/1998/09/4548.html

Yes2K

Yes2K detects flaws in your CMOS

and BIOS that can cause problems on a Windows 3.1 PC when it's used after 31 December 1999. After running the tests, it recommends a solution for making your PC hardware Year 2000 compliant.

www.zdnet.com/chkpt/hud0001100/www.zdnet.com/zdy2k/1998/09/4553.html

Millennium File Scanner v1.05b

Millennium File Scanner is a PC scanning tool to find questionable Y2K files on your computer.

<http://computingcentral.msn.com/topics/shareware/dbdetails.asp?downloadID=44585>

Y2K Sure

A Windows-based Y2K compliance checker.

www.2000check.com/freetest

PC Life 2000 3.0.1

PC Life 2000 is a software solution to the real-time clock (RTC) hardware problem. In addition to RTC/BIOS/OS Y2K compliance, PC Life 2000 includes features that enforce short and long system date format Y2K compliance. It also manages the system clock and log date changes.

www.space.net.au/~amadeus/download.htm

PCWatch2000

PCWatch2000 is an easy to use program that tests your PC for Y2K compliance. A single mouse click is all that's required to perform the tests, which include Y2K rollover, BIOS date retention after 2000, and 10 years of leap year dates.

www.pcw2000.com

2000, can all cope with Real Time Clock errors that set the date at 1900, and they'll automatically compensate for this by setting the date to 2000.

Internet apps and Y2K

Unlike mainstream applications, Internet software seems to have escaped the ravages of the millennium bug. For instance, the only common Microsoft Internet application that isn't compliant is FrontPage 1.1 – the other versions come with Internet Explorer 3, 4 and 5. The same applies to Outlook Express and NetMeeting.

The latest Netscape client products are all Y2K-compliant, so you don't need to install any patches. But Netscape stresses that Navigator 3.x, Navigator 4.0 to 4.06 and Communicator 4.0 to 4.06 include third-party Java

components that might not be Y2K compliant in all respects.

Y2K hardware checkers

The great thing about the Internet and the Millennium Bug is that an enormous variety of brow-soothing Y2K diagnostic software is available on the Net and that most of it can be downloaded for free – it could be your salvation in the midst of Millennium chaos.

Most of them only test your PC hardware for Y2K-compliance and nothing else. But a few programs will scrutinise your data files for things like two-digit year entries, while one or two others, such as the Microsoft Year 2000 Product Analyser Wizard (from www.microsoft.com/technet/year2k/pca/pca.htm), will audit your installed apps to check against a list of non-compliant applications.

Year 2000 Compliance Summary

Windows 98 4.10 (English)

Location: c:\WINDOWS\SYSTEM

Status: Compliant (prerequisite required)

More Info: http://www.microsoft.com/technet/year2k/product/user_view32165EN.htm

Action: Prerequisites: Windows 98 Year 2000 Update service from the link on the Start menu and Updated Microsoft Virtual Machine located at: http://www.microsoft.com/technet/year2k/product/user_view68481EN.htm

Internet Explorer 5.0 (English)

Location: c:\Program Files\Internet Explorer

Status: Compliant

More Info: http://www.microsoft.com/technet/year2k/product/user_view69089EN.htm

Excel 97 SR-1 8.0a (English)

Location: c:\Program Files\Microsoft Office\Office

Check your Microsoft applications and operating system for Y2K compliancy on its Year 2000 page (www.microsoft.com/uk/year2000) – it'll give you a detailed report

There are so many hardware checkers, you can afford to be selective. We've shortlisted four programs from the extensive list.

1) Norton 2000 BIOS Test/Fix www.symantec.com/sabu/n2000ret/n2000_ret

2) NSTL Ymark 2000 www.nstl.com/html/nstl_ymark2000.html

3) Ontrack Y2K Advisor www.ontrack.com/op/op_6.asp

4) Network Associates McAfee 2000 Toolbox www.mcafee.com/centers/clinic/start.asp?area=y2khard

These checkers automate the process of testing your PC. At the end of the test, your system will have either passed or failed.

The most accurate checking is usually performed from a pure DOS prompt. Many Y2K checkers generate a special bootable diagnostics floppy disk for you. You simply reboot with the floppy in place and the various compliance tests are automatically run.


But some checkers – such as the McAfee 2000 Toolbox, Y2K Sure and PC Watch 2000 – run from within the Windows environment. The Millennium Bug Toolkit (from www.y2kbugfix.com/Demos.htm) starts in Windows and restarts in MS-DOS mode to conduct the tests, before restarting in Windows to display the results. It needs a Net connection to install properly.

The Y2K tools on the Web might be free, but you get what you pay for and we did come across the odd stupid bug. For instance, PCWatch2000 only recognises US MM/DD/YY formats, so it interpreted 20/09/99 as an illegal date, which is pretty poor, even though it's freeware.

PCWatch2000 also appears in perhaps the only real time Y2K checker on the Web. You can run your compliance tests on ZD Net's Virtual Labs page (at www.zdnet.com/vlabs/y2k/testy2k.html).

It's a simple wizard-based tool like the McAfee 2000 Toolbox.

Finally, follow our step by step guide (starting on page 111) to the Norton BIOS Test/Fix program. It includes a DOS device driver 'fix' for your non Y2K-compliant BIOS.

Unless you have a lot of date-sensitive data, there's no need to panic about the Millennium Bug. The Web's teeming with free bug spray, so test your applications for compliancy and update your browser. Fix your BIOS and your version of Windows (if you need to) and you'll sleep easy. 

Y2K sites

Action 2000

www.bug2000.co.uk

Cabinet Office Year 2000 Team www.citu.gov.uk/y2000.htm

Microsoft Year 2000 Readiness Disclosure & Resource Centre www.microsoft.com/technet/year2k

Microsoft Year 2000 Portal Page www.microsoft.com/y2k

Microsoft UK Year 2000 www.microsoft.com/uk/year2000

Netscape Communications There's a useful list of Y2K resources at <http://home.netscape.com/products/year2000/resources.html> and <http://home.netscape.com/y2k/index.html>

PCY2000 alliance www.pcy2000.org

CNN Interactive: The Year 2000 Bug www.cnn.com/TECH/specials/y2k

TIME Digital <http://cgi.pathfinder.com/time/digital/y2k/index.html>



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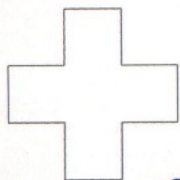
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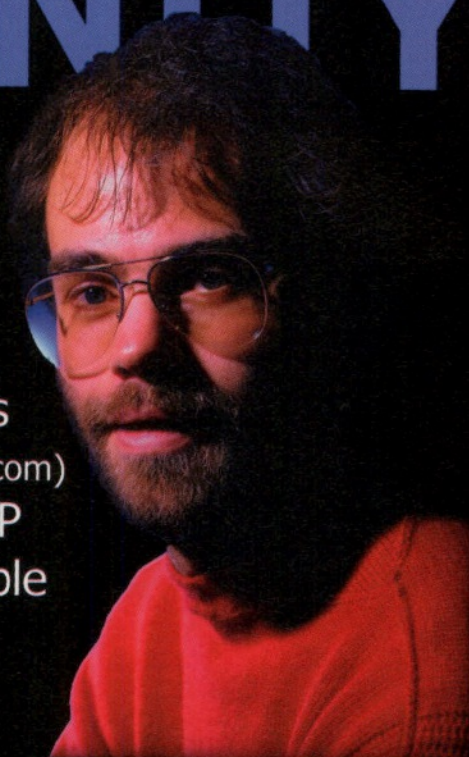


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Make the most of your free email

Are you making the most of your free email account? Chances are it could be doing a lot more for you than it is now. **Gail Robinson** tells you how to use all the best features, including how to access messages from your ISP email account

There are over 30 million Hotmail users in the world and most people only use the service to send and receive messages. But it can do so much more – it might even save you from the doghouse. Using Hotmail's Reminder option, you can set up useful messages about your wedding anniversary or your mother's birthday – think of the grief this could save you.

You can do far more than you think with your free email service. Most importantly, you can save money by working offline, using your ISP email to compose and receive messages, and then switching to your free online service to send them. We've focused on the two big names in Web-based free email – Hotmail and Yahoo! Mail – as well as the UK-based BT service, Talk21.

Spot the difference

The free email services work in a very different way to the email offerings of your typical ISP (which uses POP email). With free email, you don't need any special software or settings to access your messages – you just need a computer connected to the Internet and a browser. In contrast, it can be tricky to pick up your POP email from anywhere other than your own computer at home or work.

Most ISPs use the POP (Post Office Protocol) Internet mail standard – currently in version 3. It's a storage and forwarding service that moves mail from your ISP's server to your computer.

Pick up all of your mail

If you're away from work, you can access your office email from your free email service. As long as your

corporate POP sits outside your company's firewall, you'll be able to use Hotmail, Yahoo! Mail and Talk21 to do this. You could also use a free email service to pick up your messages from your ISP account. Before you embark on this project, you'll need three important bits of information from your ISP or IT support – your user name and password (usually your email log in and password) and the name of your mail server (something like mail.ispname.com).

● Using Hotmail to pick up POP email

Hotmail can check up to four POP accounts. From Hotmail's main menu, choose Options and click on POP Mail. Enter the POP server settings of the email accounts you want to access. Hotmail asks you if you want to leave a copy of your messages on your POP server. This means your POP messages will be downloaded twice when you check your accounts. In the Port Setting field, type in the default of 110, unless you've been told a different figure by your ISP or IT support.

Click on the POP Email button from your Hotmail Inbox to pick up your POP mail.

● Using Yahoo! Mail to pick up POP email

Yahoo! Mail lets you check three external POP accounts. Choose Options from the main Yahoo! Mail menu and select Check External (POP) Mail. Click on the Configure New Server button and fill in your details. Yahoo! Mail has a nice feature that lets you specify filters, so you can store your POP email in folders as it arrives in your Inbox. Click on the Check External Mail option to pick up your POP mail.

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In the first issue

Q What's POP3 email?

A POP3 (Post Office Protocol version 3) is a means of transporting email between a server machine and a client (generally a PC user). The beauty of POP is that the user can initiate the delivery of mail by logging into their POP account. This makes it ideal for dial-up users. POP3 email packages such as Eudora (for Macintosh and PC) still use SMTP (Simple Mail Transport Protocol) but they spool the mail locally until told to connect to a server.

POP Server Settings

Use this form if you have one or more Post Office Protocol (POP) accounts with an existing Internet Service Provider or with your company. If you are unclear about these fields, click the Help link for more information. When you are finished filling in the fields, click OK.

OK Cancel

1st POP Account:

POP Server Name: hotmail.cwemail.com

POP User Name: gailrobinson

POP User Password: [password field]

Server Timeout (seconds): 180

Port Number: 110 (Standard is 110)

☒ Leave messages on POP server

New Mail Indicator: [indicator icons]

Click on the POP Email button from your Hotmail inbox to pick up your POP mail

External Mail

Save Cancel

Mail Server: mail.freemove.com (e.g. mail.yahoo.com)

Username: gailrobinson

Password: not displayed for security purposes

Port Number: 110 (standard port # 110)

Leave Mail on server: ☒ Yes ☐ No (delete)

Get All Messages: ☐ Yes ☒ No (new only)

Download to Folder: [Inbox]

Use Filters: ☒

Indicator: [indicator icons]

Picking up POP mail in Yahoo! – just click on the Check External Mail option

BT connect to business

Click to make business sense of the internet.

talk21 free email from BT

read messages | write messages | address book | folders | mail pick-up

help | preferences | exit

To help you get set up, here's an example:

description	userid	mailhost
FreeServe	userid: gailrobinson@freelanceworld	mailhost: mail.freemove.com

Once you have set up your mail pick-up accounts click on mail pick-up in the yellow menu bar to collect your mail.

tips for using talk21

You can forward a message you've received on to someone else including attachments

1

Check External Mail

Talk 21 lets you access up to three external POP3 email accounts

WHERE'S THE PROFIT IN EMAIL?

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So finding the profit isn't the hard part. It's finding the best email to offer.

We've cracked the code of e-commerce profitability while others are still chasing our technology.

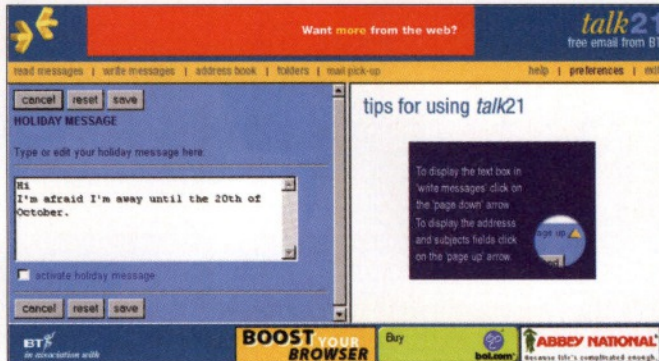
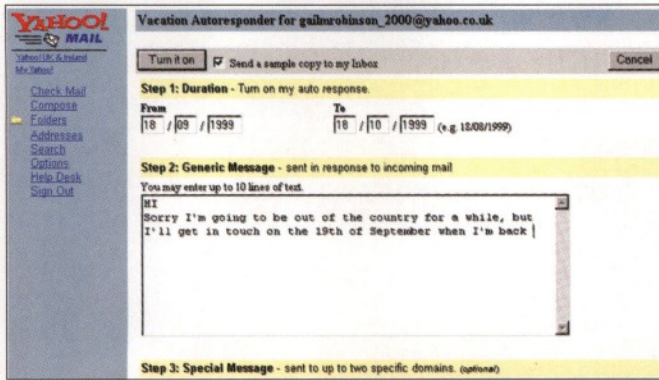
The fact is, CommTouch delivers email solutions to over 100 leading business partners worldwide. For web leaders like Excite and Talk City. For corporations, like Japanese giant NTT. And tiny companies with just a handful of customers.

If you've never considered providing email to your customers, now's the time.

And if you're looking for the profit in it, look no further than CommTouch. For more information, please contact sales@commtouch.com or visit our website at www.commtouch.com



The global email messaging solution



Both Yahoo! Mail (top) and Talk21 (above) give you the option to set up a message that'll reply automatically while you're on holiday

● **Using Talk21 to pick up POP email**
Talk21 also lets you access three external POP3 email accounts. Click on Preferences from the Talk21 main menu and select Set up/Edit Mail Pickup Accounts. Type in a description of the account you want to access, then enter your details. Talk21 doesn't give you the option of keeping copies of your email on the POP server, and it doesn't let you filter your messages as they come in. Click on the Mail Pick Up button from the main menu to pick up your POP mail.

On holiday

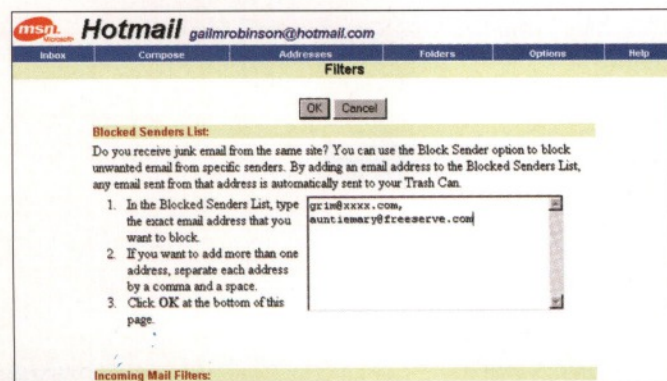
Yahoo! Mail and Talk21 support the automatic sending of holiday messages, such as 'Sorry, I'm on holiday till the 25 October'. Yahoo! Mail has the most comprehensive holiday message system. From the Options menu, click on Vacation Response. Enter how long you want to keep the message for and type in

your message. Yahoo! Mail lets you set up a separate auto response to send to one or two specific email addresses. For instance, you could leave your holiday contact details for family or friends, but a different message for work.

If you use Talk21, click on Preferences and select Holiday Message. All you can do here is type in your message – you can't set specific dates when your message is sent out.

Filtering out spam

Hotmail and Yahoo! Mail have good filtering features and will delete junk mail automatically. To filter out spam in Hotmail, select Option from the main Hotmail menu and select Filters. Type in the email address of your spammer. You can add more than one email address here – separate them with a comma and a space. This is also the dialog box where you set up your filters,



You can set up multiple email address filters to keep your Hotmail spam-free

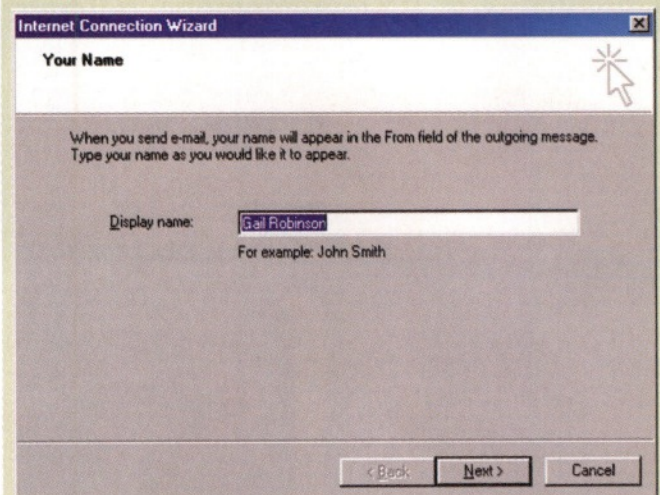
Using Outlook Express for your free email

The biggest problem with free email services is that everything is done online, which means you're running up your phone bills while you're writing your messages and maintaining your inbox. The free email services want to keep you online – to look at their banner ads – so they're not keen on adding offline features. Yahoo! Mail, for instance, doesn't let you pick up your email using conventional POP mail software and it doesn't let you forward your emails automatically to another account.

In contrast, Talk21 lets you pick up and send your Talk21 messages from Outlook Express – as long as you connect to the Net using a BT ISP, such as Btclick.com. This makes good business sense for BT, since it brings extra subscribers to its services. A new feature in Hotmail also lets you use Outlook Express 5 to access and send your email. This is another sound business decision – Microsoft owns Hotmail and it wants you to use its email software.

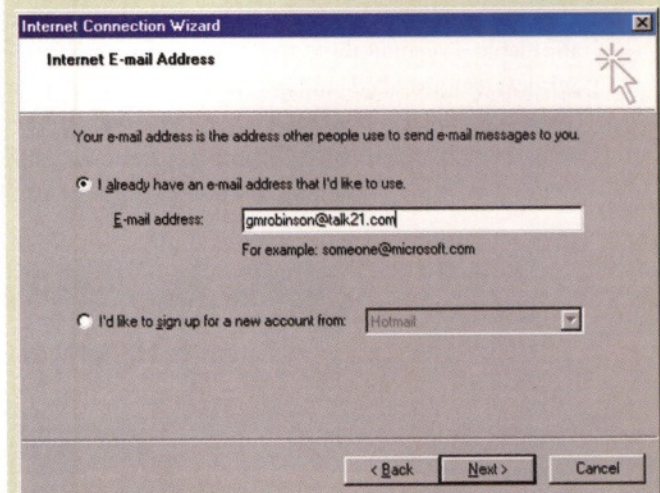
Picking up and sending free email using Outlook Express and Talk21

Step 1

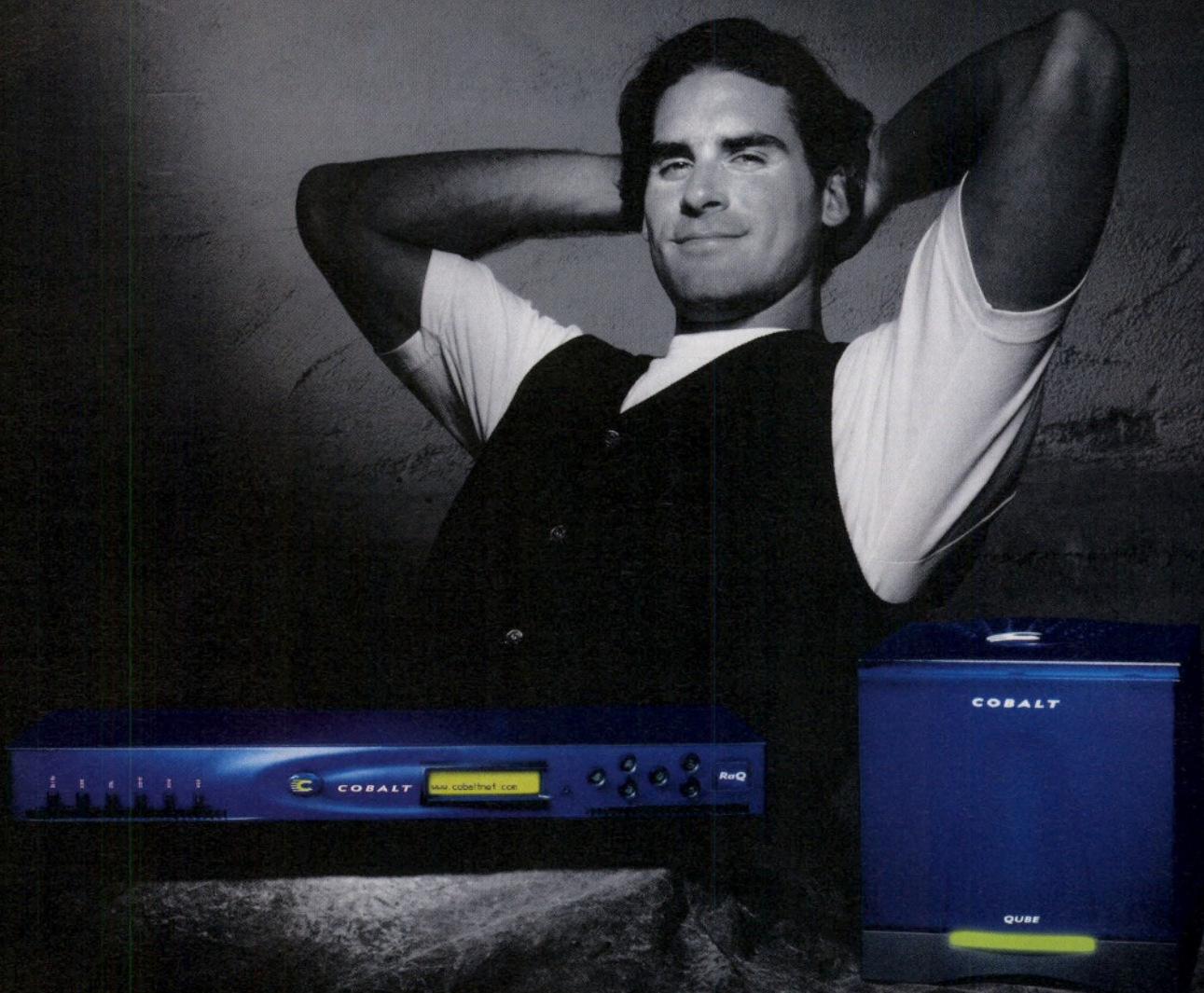


From the main Outlook Express menu, select Tools/Accounts, click on the Add button and select Mail. A new account wizard pops up and asks you to type in the name you want to use in the From box on all your emails. Click on the Next button.

Step 2



Type in your Talk21 email address in the email address box.



[Sloth]

Is a virtue

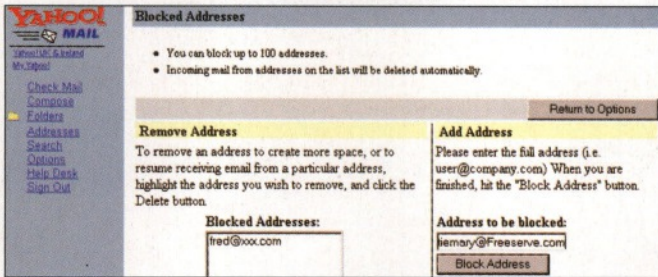
How can it possibly be sinful to have more time to enjoy the bright sides of life? The second generation of the affordable Cobalt RaQ™ and the Cobalt Qube™ Server - Appliance gives you even more Internet/Intranet Services pre-installed and pre-configured: Email (automatic vacation responses, automatic forwarding) File (Apple, WIN, Unix), DNS, DHCP, SNMP, Web server (CGI and Perl), virtual Web-hosting, FTP, anonymous FTP, Telnet, DNS, Microsoft™ Frontpage extension, Proxy (Caching), Modem/ISDN and system management (SNMP). All up and running on the Net in less than 15 minutes.

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Yahoo! Mail will block up to 100 undesirable email addresses

so you can direct emails into specific folders automatically.

You can create up to 15 filters with Yahoo! Mail and the service can automatically delete email from certain addresses. From Options on the main Yahoo! Mail menu, click on Block Addresses. Here you can add up to 100 email addresses to block. Once you've added these, click on the Block Address button.

Adding signature files to your email

A signature file is simply a block of text that's automatically inserted at the end of every message you send – it could include your contact details and a witty phrase or motto.

This feature is common in email software and our three featured email services all support signature

files. It's particularly useful if you want emails sent back to a different address from the one you're using. To set up a signature file in Talk21, choose Preferences from the main menu and select the Set up/edit signature option. Enter the text you want to add to your emails and click on the Save button.

In Yahoo! Mail, select Options from the main menu, then Signature. You can now add up to seven lines of text to your messages.

Finally, select Options from the main Hotmail menu, select Signature and enter your text.

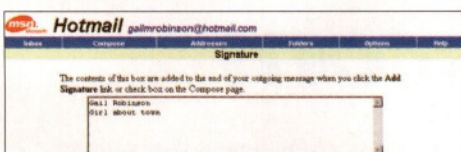
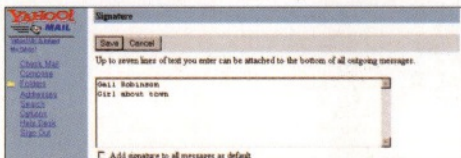
Get notification when a new email arrives

It can be frustrating to have to keep logging onto your free email service only to discover that nobody loves

you, and you have no new messages.

There are a couple of handy add-ons for Yahoo! Mail and Hotmail that will keep an eye on your free mail inbox while you're online – they use an onscreen message to alert you whenever you get a new message.

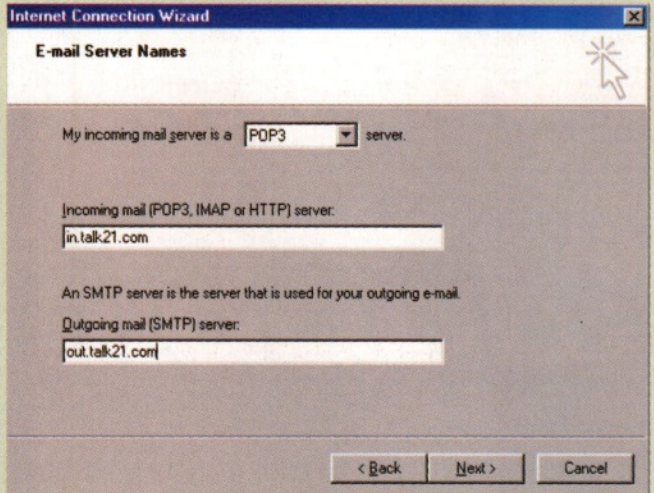
Yahoo! Messenger works with Yahoo! Mail to tell you when you get your new messages. This useful little program also lets you conduct real time chat with your friends. You can



All three services let you add a signature file to your messages – so you can add a bit of personality to your email

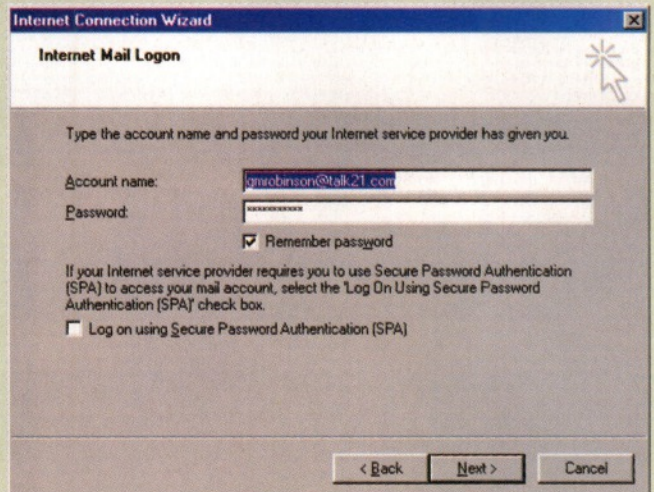
Using Outlook Express

Step 3



Now we have to input the incoming and outgoing mail server names for Talk21. The incoming mail server is called in.talk21.com and the outgoing mail server outgoing out.talk21.com.

Step 4



In the Account Name box, type in your Talk21 user name (like gmrobinson@talk21.com) and your Talk21 password.

Step 5

To save the settings, click on the Finish button. Your Talk21 account is now set up to send and receive messages using Outlook Express (as long as you use one of BT's ISP services). To send and receive email via Talk21 in Outlook, select Tools from the main menu, followed by Send and Receive, and choose Talk21 as your email account to send and receive email.

WEB HOSTS ARE ALL THE SAME



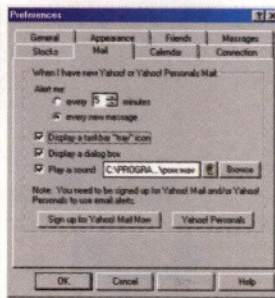
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information on your team and every team – from
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Chester City.*

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wing and lobbing into the box.*

SOCCERNET
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Most people assume you have to keep checking the free services to see whether there's any mail for you, but Hotmail and Yahoo! Mail will notify you automatically

download Messenger from the Yahoo! UK home page (www.yahoo.co.uk). Click on the Messenger text and follow the instructions – the download is just under 1Mb. Once you've installed Messenger, enter your Yahoo! Mail username and password, then set your email notification details. From the Messenger menu, select Edit, followed by Preferences. In

the tabbed Preferences dialog box, select the Mail tab. You can now specify how often you want Messenger to check your Yahoo! inbox – it'll even play a sound when you get new mail.

Hotmail's automatic notification is also called Messenger – you can download the 324Kb file from the MSN home page (at www.msn.co.uk). MSN Messenger notifies you when your friends are online, lets you chat in real time and tells you when new Hotmail messages have arrived. Once you've installed MSN Messenger, it's automatically set up to notify you as soon as new Hotmail messages arrive.



Top five shareware add-ons

CwebMail

CwebMail lets you send and receive Hotmail and Yahoo! Mail messages through any standard email client (including Netscape Messenger, Eudora and Outlook Express). CwebMail directs the email client to a CwebMail server, which acts as a relay for email.

File size 276k

Registration fee \$10 (around £6.50)

www.cwebmail.com

WebMail Alert 2000

WebMail Alert 2000 does the same job as Ristra – it displays a message when you get new mail.

File size 2.2Mb

Freeware

<http://welcome.to/cksoftware>

@nymail

@nymail checks multiple free email accounts at regular time intervals. It claims to work with over 70 Web-based email services, including

Hotmail, Yahoo! Mail and Excite Mail. The software also lets you compose and send emails.

File size: 2.6Mb

Freeware

www.tntsb.com/anymail

Ristra Mail Monitor

Ristra monitors your free email accounts and lets you know if there are any messages waiting for you.

Download size 1.6Mb

Registration fee \$19.95 (around £13)

<http://welcome.to/ristra>

A-Lock

The free email services lack privacy and security features, such as encryption or digital certificates. A-Lock is a handy tool to add to your free email armoury. It can be used with Hotmail to automatically encrypt and decrypt mail.

File size 135k

Registration fee \$15 (around £10)

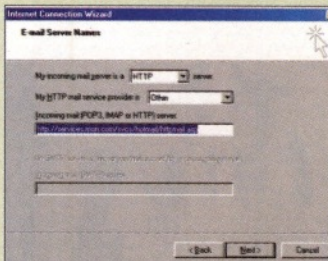
www.a-lock.com

Using Outlook Express

Picking up and sending free email using Outlook Express and Hotmail

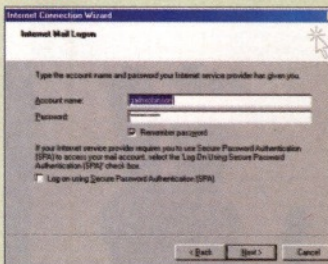
Hotmail has added offline support to its service, but you can only use Outlook Express 5

Step 1



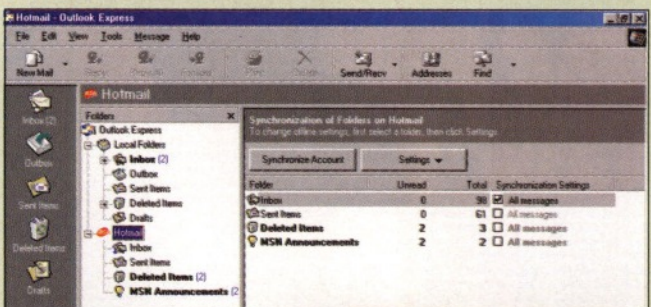
From the main Outlook Express menu, select Tools/Accounts, click on the Add button and select Mail. A new account wizard pops up and asks you to type in the name you want to use in the From box on all your emails. When you're asked for your email address, type in your Hotmail email details and click on the Next button. In the email server names dialog box, choose HTTP from the menu called 'My Incoming Server is'. Now select Hotmail as your HTTP mail service provider. In the Incoming mail server field, make sure the entry reads <http://services.msn.com/svcs/hotmail/httpmail.asp>. Click on the Next button.

Step 2



In the Internet Mail Logon dialog box, type in your Hotmail account name and password and click on the Next button.

Step 3



Click on Finish and you'll notice Hotmail has been added to the list of supported email accounts. To pick up Hotmail emails from Outlook Express 5, select Tools followed by Send and Receive, and choose your Hotmail account. A new Hotmail folder appears in your Outlook Express inbox, along with an option that lets you synchronize the inboxes of these two accounts.

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Keep your Web site secure

You've entrusted your Web site to a hosting service, but you still need to consider security. **Steve Patient** tells you how to stop feeling vulnerable

When the CIA has its front page hacked, you know your own site isn't safe, even if it's hosted by a professional company. But hackers don't just target large companies and political organisations. Your Web pages are at risk from people who will replace your pages simply for their own amusement.

Only servers that are turned off and buried in a hole can't be hacked. You can check out a collection of hacked Web pages at www.antionline.com

Password protection

The easiest way for a hacker to alter your site is to use your ID and

password. If you're a dial-up user, your ISP ID is part of your Web site URL and email address. Unfortunately, most people think ease of entry is more important than security, so they don't keep their password secret. Your Web site password should be at least six characters, but not a word you'd find in a dictionary. It should include at least one number and different cases – yRw98k is a far more secure password than sex, Fred or the expletives many people use.

You should never use your name or ID as a password. If your ISP gives you an option to change your password, do it regularly.

Collection agency

If the file and printer sharing is disabled on your computer, it's tricky for hackers to access your computer. But networked PCs can be more difficult to secure. A network lets you access resources from another computer, but can also give a hacker access to your site. For instance, some people keep files listing passwords for different sites and services.

If other people have access to your PC, or if you connect to the Net from a network, you need to use a network aware operating system, such as Windows NT or Linux.

Knowledge is power. The only way to ensure your networked machines can't be compromised from the Net is to learn about user and file permissions, access rights and routing issues. Hackers know this information, and they rely on your lack of knowledge to succeed.

Any files that contain passwords or other critical information should be encrypted. Try the free version of PGP (cryptography software from Pretty Good Privacy, Inc), which is available from www.pgpi.com.

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Stolen sites

You can't prevent people from copying the entire content of your site. They can claim the content is their own, or alter it and claim it's your original site.

With the addition of suitable META tags, the hacker can make their site appear in search engines ahead of your original site. This technique can be used to undermine your opinion on a subject, to poison data you've collected and to spread FUD – fear, uncertainty and doubt.

It can be made even more effective by registering domain names that rely on typos of the correct URL. For instance, your domain name might be www.againstmercykilling.com, while the hijacked site might be www.againstmercykilling.com

The only practical way to fight such attacks is to register a simple URL and all the domain names resulting from spelling errors. A better version of the domain name would be www.against_mercy_killing.com. You could also register www.against_mercy_killings.com

You should conduct regular searches for your own site in a selection of search engines, using words and phrases that make it easy to locate. If you find an unauthorised copy of your site, contact the company hosting it.



Anyone can copy your Web site and claim the content is their own

Save 50-70% on Term Life Insurance

Coverage: Select State: AL Tobacco Use: Select Birthdate (mm/dd/yyyy): Gender: M

--AntiOnline's Hacked Webpage Archives--

Warning! These webpages are mirrors of hacked websites. They appear in the same form as when they were originally created by the hacker/hackers. These pages may contain profanity, pornography, and language which may be offensive to some people. Viewer discretion is advised.

Name	Size
Parent Directory	-
bliss.www.army.mil/	-
bppt.go.id/	-
coopra.inet.gov/	-
hacks.infinic.me/	-

No one is safe. Check out www.antionline.com for a list of hacked professional sites

Welcome to the Central Stupidity Agency

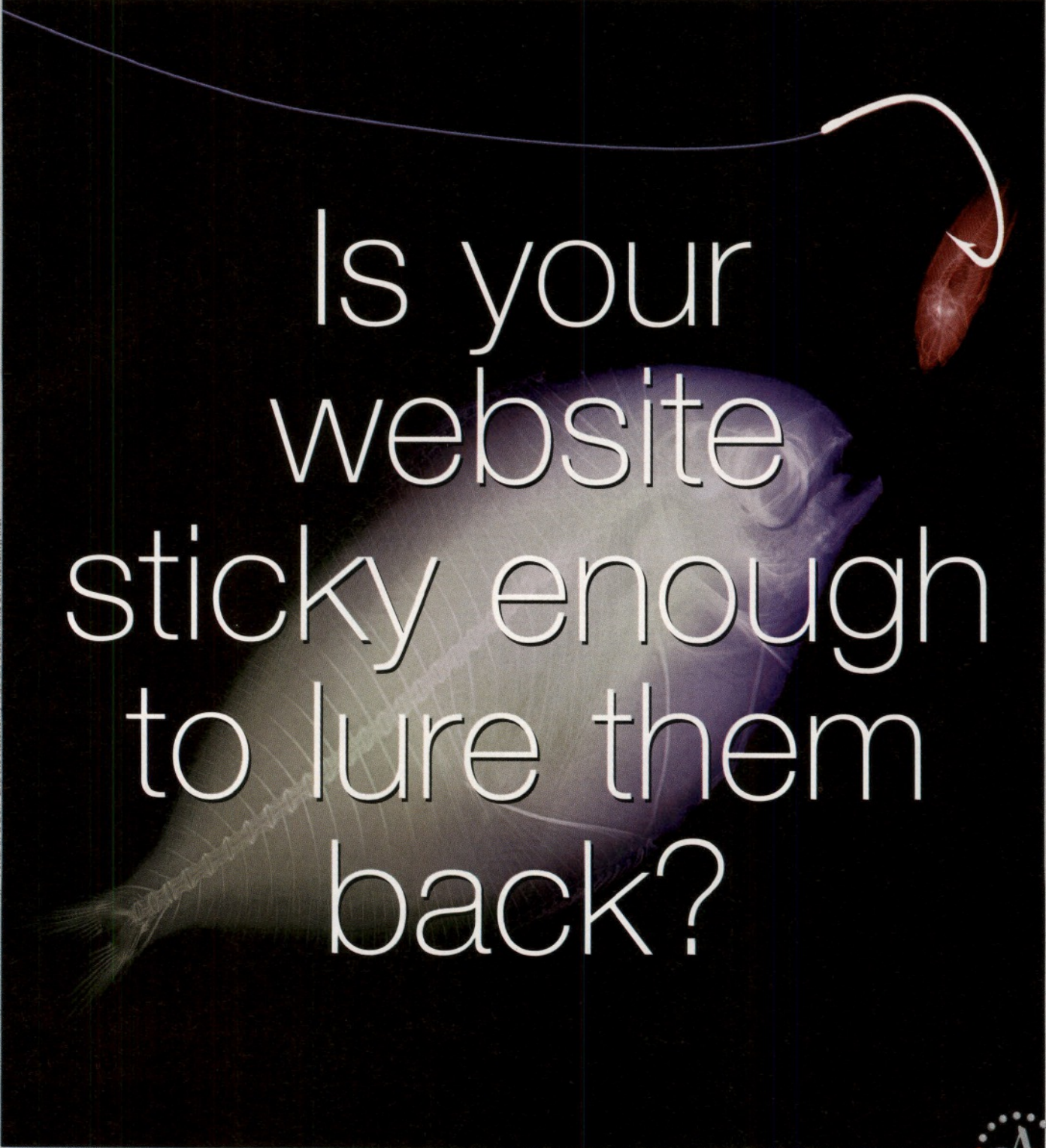
We'd just like to say one thing... And that's:

STOP LYING BO SKARINDER!!!

SLUTA LJUG BO SKARINDER!!!

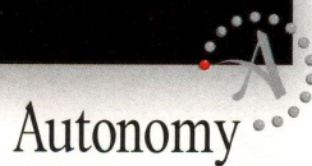
Please choose one of the all the following categories below:

The AntiOnline site includes such howlers as vandalism to the CIA's home page. Security has to be an active process – it doesn't just happen



Is your
website
sticky enough
to lure them
back?

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ATTRACTING CUSTOMERS TO YOUR SITE IS DIFFICULT, unless you have something tempting to offer. Keeping them hooked requires a solution that understands what they want. That's why Autonomy® created Portal-in-a-Box™, an out-of-the-box solution for the rapid deployment of content-rich, personalised web portals. Powered by a proven technology that understands text, Portal-in-a-Box™ is the first to automatically aggregate, categorise, link and deliver content — the moment it's available — without any manual effort. It also automatically profiles users so you can deliver personalised content that keeps them coming back. Want a solution smart enough to automate your entire web portal? Go straight to www.autonomy.com/hook. Or call us at 0800 917 6265.

Clearing your cache and bookmarks will prevent people from collecting data about you after you've visited their site. But if you're serious about security, never send unsecure information over the Net, and only supply your password to access your Web site.

Honey traps

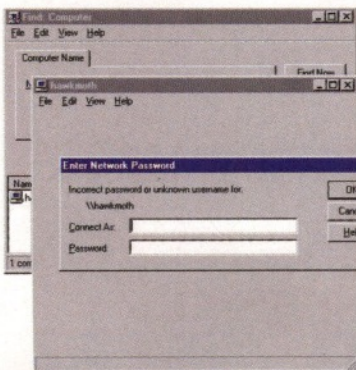
Your site can become a target for hackers if you've visited a Web site dedicated to surreptitiously collecting user information. You might have also downloaded a utility designed to provide information to a third party.

Browsers such as Navigator and Explorer provide a lot of information by default, but the real risk online is

active site content. Cookies, JavaScript, Java and ActiveX can all



free, so take advantage of it, or people will take advantage of you



You need file and print sharing on even a small local network, but if this network connects to the Net, you must make sure access is only granted with authentication

be used to extract and relay information from your PC, including all of your passwords.

ActiveX is the most dangerous. Signed ActiveX applets aren't secure – anyone can sign an applet and get permission to do this from companies such as Verisign – using someone else's identity and credit card number. As a security model, it's got more holes than a colander.

If you're serious about security, you have to disable active content on your PC, including JavaScript. It's the usual trade-off between security and convenience.

More insidious still are passive attacks. A trojan such as Back Orifice or NetBus can install itself on your system during a simple site visit. Once installed, it provides the hacker with total access to your system. Most good virus checkers will detect these now – so make sure you install one.

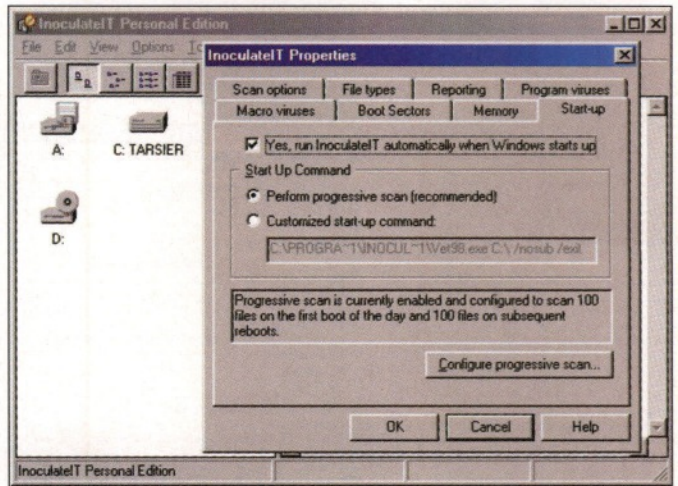
Script security

Hackers can compromise your site even without direct access. Many common CGI scripts can be used to attack the Web server or to gain access to your files and Web pages.

If your hosting service lets you upload CGI scripts, make sure it knows what it's doing. CGI-based attacks are effective as too many scripts fail to check for system or shell commands. Guestbook scripts suffer from these problems and can be used as a way in by hackers.

Before you can use a CGI script on your site, the script must be checked by someone who knows how to write them and who understands the appropriate security issues. This is why your hosting service charges you for uploading CGI scripts – it's for your own benefit.

Naive hosts can provide unsafe CGI scripts – such as PHF, which is supplied with versions of Apache (the Web server software) – by accepting defaults. If you have CGI-bin access, check what's installed on your computer. ➤



One of the biggest risks to your Web site is losing control of your Net account. Use a virus checker that can scan for trojans such as NetBus

Social engineering

In a recent test, many AOL help desk personnel were found to be willing to hand out user passwords over the phone. This isn't a dig at AOL, merely an observation that most people are trusting. But hackers take advantage of this trust using a process called social engineering – it's really just a fancy name for lying to gain information. Targets can include anyone with useful information – from help desk personnel and secretaries to system engineers and you.

Imagine this scenario – someone calls you claiming to be from your hosting service, with accurate knowledge of you and your site. You'd probably believe them. They invite you to test out a secret new member service by typing your ID and password into a special page – only in reality this is the hacker's page.

But then nothing happens, or perhaps you get an error message or number. You tell them about the error and they mutter engineering curses saying, 'I told them it wouldn't work from outside. I'll get back to you.' You're left feeling good about being chosen to do some 'special testing'. But in truth you've just given a hacker your account details.

The main tools of social engineering are urgency, security and flattery. This works just as well against naive and eager-to-please support staff, because they're always getting calls from people who've lost their passwords.

Support staff will always need access to passwords, but you can still minimise the risk to your site.

- 1 Deal with a host that has a security phrase.
- 2 Make sure your host runs its own help desk with its own employees.
- 3 Insist on changing your password on a regular basis.
- 4 Don't give support staff a reason to look up your password – keep it encrypted yourself.
- 5 If you doubt your host's commitment to security, change your host.
- 6 Never hesitate to close an account and open a new one if you suspect it's been compromised.

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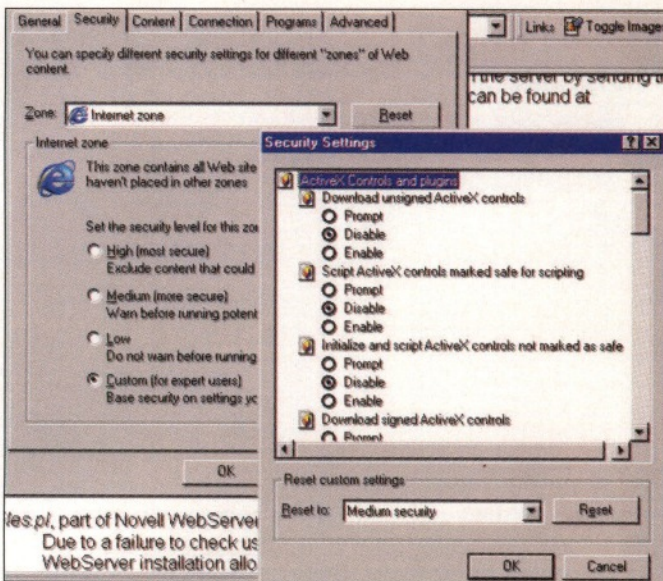
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The biggest risk to the security of your own computer is active Web page content. You can make it a lot harder for hackers by disabling this

Hackers can use JavaScript in a more direct way. While most early security bugs have been fixed, new ones are being found all the time. For instance, a JavaScript can launch an invisible window that isn't closed when you leave the site. Don't use JavaScripts you don't understand. For total security, don't support it at all – in your browser or on your site.

Hackers can put their content in your frames without accessing your Web site at all. And there's nothing to show it didn't originate with you. There are two versions of this exploitation, one uses JavaScript and the other uses HTML.

To avoid the frame-based exploitation, don't use frames. It's also worth including code to break

your pages out of frames to prevent others using your content in their own frames.

And finally...

If you're using free Web space, your site is wide open and has no security. At the other end of the scale, hosts that specialise in high turnover e-commerce employ people to test how easy it is to break into their servers. These companies charge a lot because they're actively paranoid about security.

The majority of hosting services come somewhere in between. Once you've secured your own PC or network, choose a reputable host (one with a reputation to lose) and make sure it has security precautions.



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LOPht Professional Plugin Pack for Back Office 2000

Boston Herald Story on .gov Crackers

8.1.1999

Discovering and publishing the security problems of servers and operating systems is the only way to ensure they'll be fixed.

10 security questions to ask your hosting service



Serving the Net

Zeus Technology (an expert in Web server software, at www.zeustecholgo.com) recommends you ask the following questions to your Web host. Here they are, together with the reasons to ask them

1 Do you vet CGI scripts?

Hackers know they can execute system commands via unvalidated user input to CGI scripts. For instance, if someone types system(rm -rf *) as input for a credit card number, and the input isn't validated, a Perl CGI script will run the system command and delete most of your system files. This will make your site unavailable.

2 Does the Web server run as SUID root?

Root is the super user and can execute any commands on the system. Taking the above CGI security hole, the entire file system would be deleted. The Web server should be run as a user, with permissions limited to things the Web server requires to do its job.

3 Are the CGI scripts directories chrooted?

Chrooting to a directory makes it behave as the root directory. This means only directories below this node in the file system can be affected by any CGI scripts and other sources of commands.

4 Can CGI scripts be uploaded by other users to gain access to my pages?

A CGI script can be used to capture information and generate a Web page or an email which will provide access information or alter one of your Web pages. To prevent this, a good admin system ensures a pool of 'safe' CGI programs are made available to everyone and that your CGI scripts can only manipulate files within your home directory.

5 Do you monitor systems for unauthorised changes or activity?

A diligent administrator will implement revision control on the servers. This lets you track changes to critical system files and is essential for organisations where several staff maintain a Web server. It's also wise to implement document file checking – a process that alerts administrators and users to changes in their file content. This aids the rapid detection of unauthorised changes to HTML files.

6 Q. Do you provide logs?

Logs let you monitor who's coming to your site and even identify wannabe amateur hackers. You can then ask your ISP or host to develop a defence

7 Are you set up to prevent SYN flood attacks?

This attack doesn't affect the security of the server, but you could lose access to your Web site for visitors and potential customers.

8 Have you disabled any unnecessary networking daemons?

Any available service offers a potential way into the server. Services that aren't being used by the server should be disabled. For instance, tftp and rxd services are notorious security holes.

9 Is your software commercially proven and tested?

Make sure your host is using software that's been tested for security bugs and that it isn't being randomly patched on an *ad hoc* basis.

10 Do you have support and access to the latest patches for any software you use on your servers?

The Web server, the operating system, and other software will always have security and operational bugs which need fixing. If your host doesn't have a software maintenance procedure, the widely used automated hacker scanning scripts will soon pick it up.

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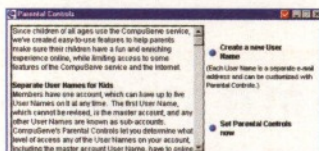
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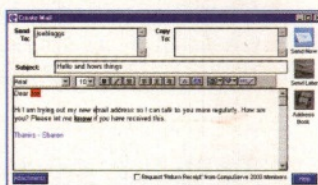
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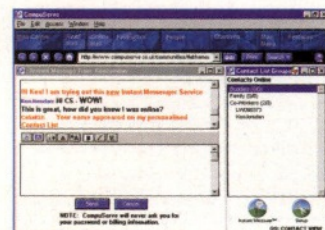
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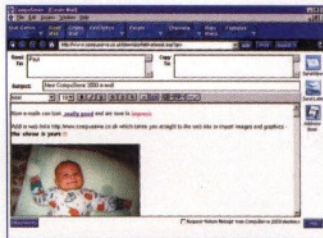
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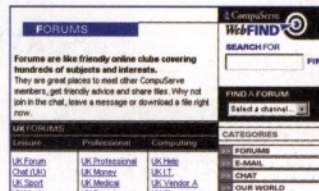
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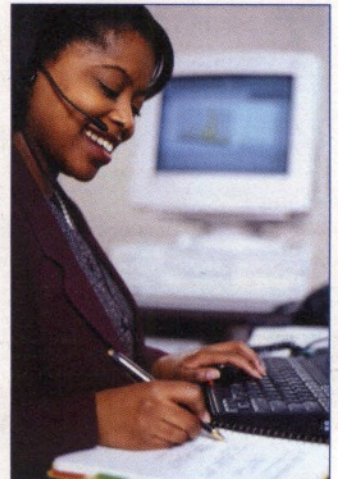


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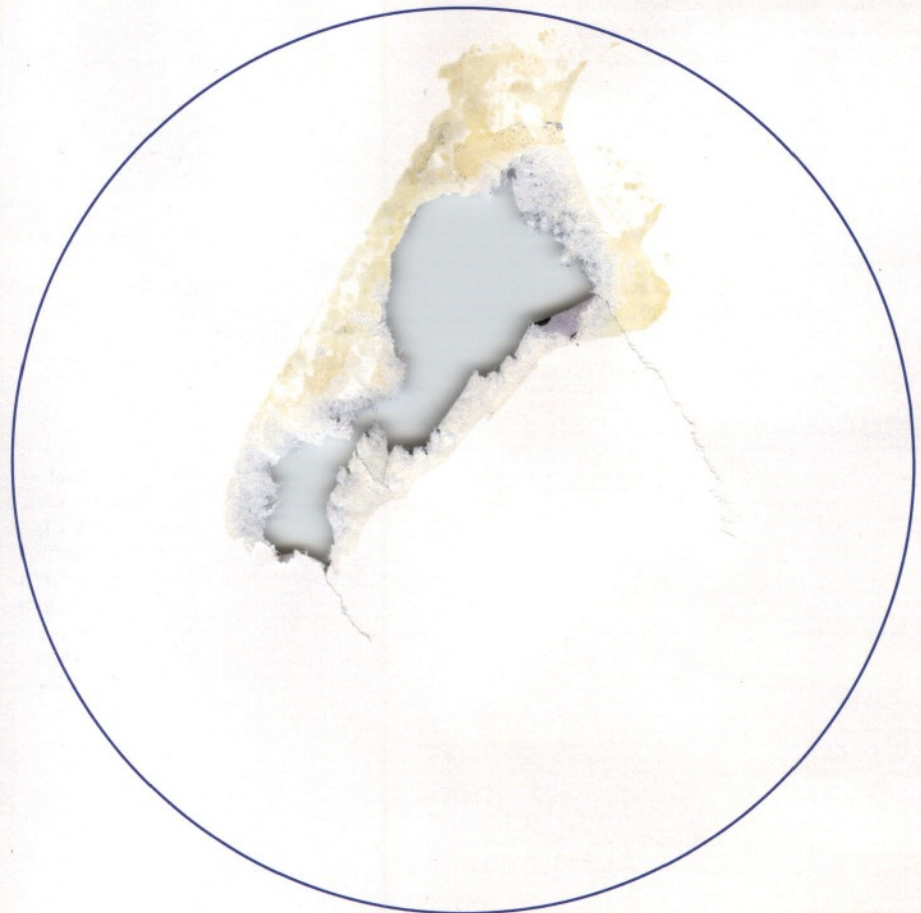


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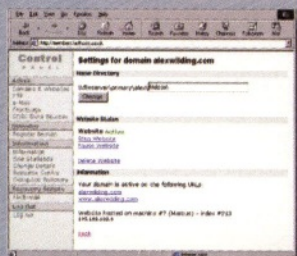
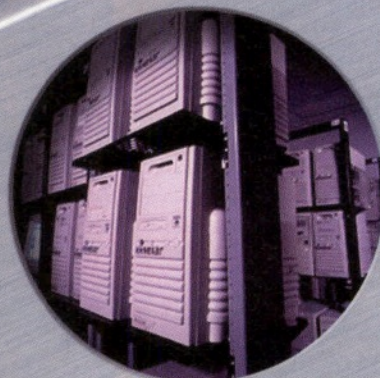
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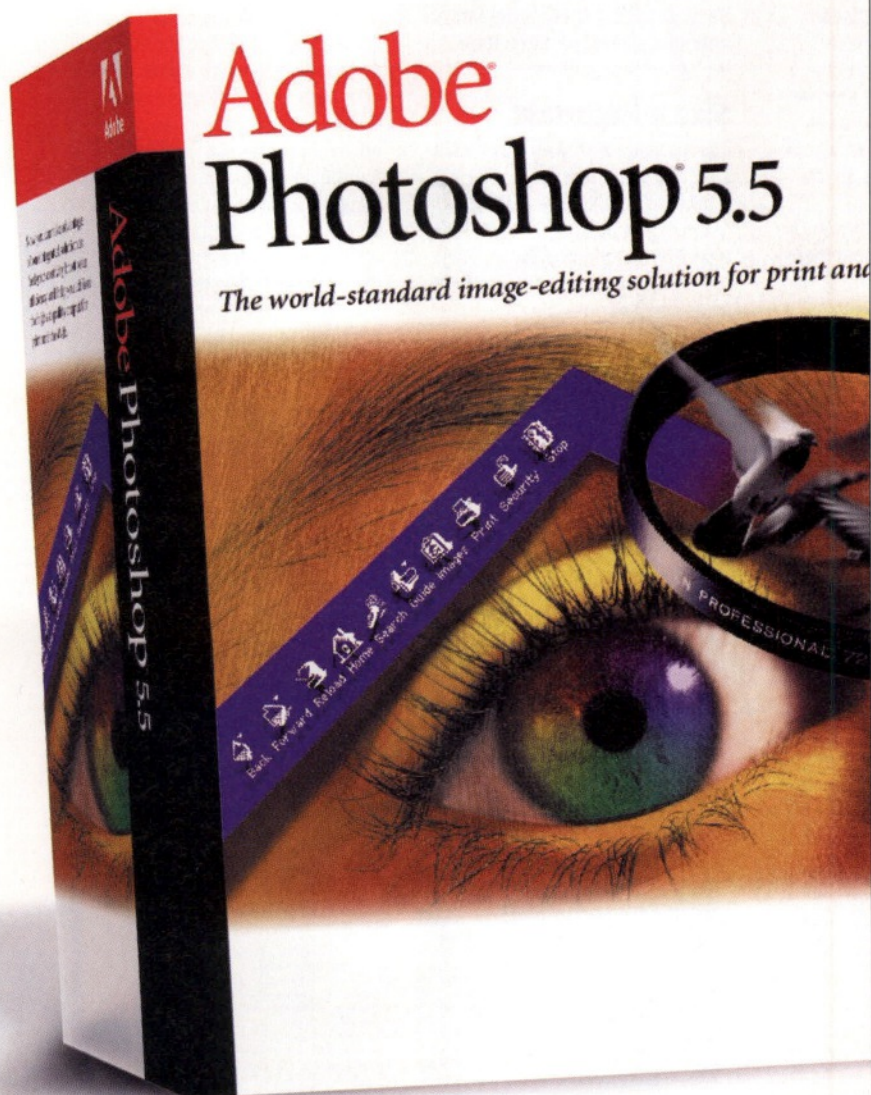


This month's reviews // labs test / software / hardware / ISPs

In Tried & Tested

Internet Magazine is committed to bringing you the best and most authoritative reviews in the Internet industry. Every month we test and rate the most important new Internet products. If you're making a buying decision or doing a bit of pre-purchase research, the following pages are not to be missed.

In Tried & Tested you'll find comprehensive, comparative labs tests, reviews of the hottest Net products, and our exclusive ISP performance tests. »



Photoshop 5.5 is the new version of the powerful graphics package
See page 137

Key reviews for October



This month's labs test reviews the latest versions of the best Web graphics software. Which package should you be adding to your shopping list?

See page 134



Media Cleaner Pro lets you convert your ordinary audio and video into a variety of streaming media

See page 143



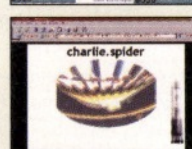
You'll be able to talk to people on any Web page with Goovey's chat software

See page 144



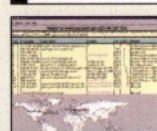
ThirdVoice lets you tell people what you think of their Web site using online messages

See page 144



Create interactive multimedia and Web content for your pages with the user-friendly Illuminatus 4

See page 145



Ever wondered where a Web site is located or who owns it? Visual Traceroute will tell you

See page 146



WebSpeed Optimizer lets you see how your site performs in 'real-world' conditions

See page 147



Our exclusive ISP tests are the biggest and the best. Don't choose an ISP until you've seen the results
See page 148

And find the best performing Web hosting companies in our tests
See page 155

Star Ratings



★★★★★ Must buy
★★★★☆ Should buy
★★★☆☆ Could buy
★★☆☆☆ Poor buy
★☆☆☆☆ Don't buy



Picture perfect

Web graphics software

To create graphics for the Web, you need specialist tools. **Richard Baguley** and the labs team check out six top graphics packages for creating, editing and enhancing your online artwork

File formats for the Web

GIF

The GIF (Graphics Interchange Format) format lets you make one colour in your image transparent, so you can, for instance, make logos float over backgrounds. Not all programs support this, so if you want to use it, check first.

Animated GIFs

Animated GIFs are (as the name suggests) GIF files that move. The file holds a series of frames that the browser plays to form the animation. Again, you can't use it if your graphics software doesn't support it. Import an animated GIF into the wrong graphics program and you'll only get the first frame of the animation.

PNG

PNG (Portable Network Graphics) was designed to replace GIFs, but it's been slow to take off. PNG files are typically smaller than GIF files, but the new format is only supported by newer browsers and graphics programs. PNG also allows 24-bit or 8-bit colour depth, so images can have 16 million or 256 colours – GIF files are limited to 256.

Progressive JPEG

The main benefit of Progressive JPEG files is they can be interlaced, so the image appears immediately as a blocky version and is gradually filled out as the rest of the image is downloaded. Again, this only works in newer browsers and graphics software.

Designing and creating

graphics for the Web is a lot different to creating graphics for any other medium, requiring a difficult balancing act between quality and size. When we're creating graphics to use in this magazine, the size of the files we create doesn't matter – you can't tell the difference between a 300k and a 30Mb file when it's on the printed page.

But you can tell the difference when it's on a Web site, and there are few things more irritating than Web pages that take ages to download because the designer hasn't used the right tools to make graphics as small as possible.

Specialist tools

It used to be the case that you had to use existing programs to create graphics and then tweak them for the Web. Until recently, most graphics programs only made passing reference to the Net or had the odd Web feature, but that's no longer the case.

A new breed of graphics programs has been specifically designed for creating Web graphics. Programs like Fireworks from Macromedia, and ImageStyler from Adobe, were written with Web designers in mind, and they're packed with features that make it easier and quicker to create graphics for the Web. You can use them to produce images for other mediums, but their main strength is Web graphics.

Other, more general-purpose, graphics programs are also nailing their colours firmly to the Web mast. For instance, the latest version of Photoshop is being promoted on the basis of its

improved features for Web graphics. The same is true of other veterans of the image processing market, such as Debablizer and Paint Shop Pro. These programs are now sold at least partly on their Web graphics features.

Size is important

The big issue with Web graphics is size. The bigger the file, the longer it takes to download – causing users to give up and go somewhere else. So what many of these tools focus on is squashing files down to be as small as possible.

You can do this in a number of ways, such as decreasing the

number of colours in images and using various compression techniques to squeeze a few extra bytes out of the image.

You can reduce the size of your GIF files by decreasing the number of colours in the image. Many types of images (such as logos or text) don't use many colours, so an efficient program can reduce the number of colours needed for that image to a minimum.

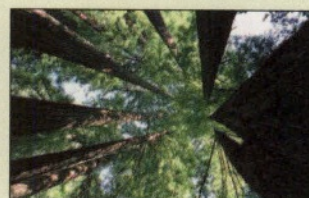
More complex images (like photos) need more colours, but these can often use fewer colours through the intelligent use of dithering, where pixels of two colours are used in a chessboard

JPEG compression: the price you pay

Saving images as JPEG format files will cut down on the file size, but there is a price to pay. Here we've compressed the same image at four different levels using Paint Shop Pro.



JPEG quality 0
File size 2.8k



JPEG quality 30
File size 18.7k



JPEG quality 60
File size 31k



JPEG quality 90
File size 52.7k

Five top Web graphics sites

Web Graphics 101

An excellent guide to the basics of creating graphics for the Web from CNet's Builder.com

www.builder.com/Graphics/Graphics101

GIF Wizard

An invaluable site that can take the graphics from your site and tell you how much smaller they could be if you compressed them in different ways. It'll also provide you with a preview of the recompressed graphics.

www.gifwizard.com

Web graphics on a budget

An excellent 'how to' site that focuses particularly on using the

Paint Shop Pro software to produce Web graphics.

<http://mardiweb.com/web>

Photoshop crash course

A good tutorial from Webmonkey that looks at the basics of using the high end Adobe graphics program.

www.hotwired.com/webmonkey/graphics_fonts/tutorials/tutorial1.html

WebDesignClinic

The Graphics section of this excellent site contains a variety of pointers to a host of tutorials, free graphics and tips for creating graphics for the Web

www.webdesignclinic.com/Graphics

pattern to give the appearance of a third. This can often work well, but caution is advised. All of the programs reviewed in this labs test will dither images, but some use more sophisticated ways of determining which dithering pattern to use – both Debablizer Pro and Image Optimizer give you lots of control over how dithering is used to make sure you get the best results.

For JPEG files, the main way to control the file size is to use the compression level. The higher the compression, the smaller the file, but the poorer the quality of the image (see box below left).

It's a balancing act between the two, and all the programs in our test let you set various levels of compression. Most will also show you a preview of several different compression levels on one screen, so you can choose the one that gives the best balance.

Several of the programs on test let you smooth the image before it's

compressed, which makes the altered image look better. Image Optimizer has a new approach – it lets you set different levels of compression for different parts of the image, so important bits of the image (with readable text, for instance) can be saved at high quality, while less important parts are more heavily compressed.

Ease of use

Having a program that can produce small images is no good if it's a pain to use. It's therefore important to look for a program that can take the pain out of the process.

Fortunately, all of the programs we looked at in this labs test seem adept at this, as all of them have batch processing capabilities. This means the program can take a set of files and automatically process them while you're down the pub.

What this processing can entail varies from program to program, but all of them can at least take a

set of images, resize them and save them as GIF or JPEG files, which is the most common processing you're likely to need for the Web.

Some programs offer more complex batch processing, such as the ability to create composite images from two separate images. This would be useful if you wanted to add a logo or watermark to a set of photographs to put on your site.



This magnified image uses only 16 colours, but the program that created it (Image Optimizer) has tried to create others by dithering

Paint Shop Pro 6



Paint Shop Pro has added JPEG and GIF optimisers, and previews, to this new version

This latest version keeps things simple, so it's fast and easy to create graphics

Paint Shop Pro certainly qualifies as a veteran of the image processing scene, having started life as a shareware program back in 1991. Paint Shop Pro became a full commercial product in 1997, and version 6 should be available by the time you read this review.

The new version has a slew of new features aimed at the Web designer, such as JPEG and GIF optimisers, a bundled animation program (for creating animated GIFs) and support for importing images from over 120 types of digital camera. For more general image editing, new features include adjustment layers (where you can make changes to an image that can be undone later), unlimited undos and a number of new filters. Animated GIFs are handled in a separate program (called Animation Shop) bundled with the Paint Shop.

The look of the program hasn't changed much from previous versions, but this is a good thing, since it was fine as it was. It works in a fairly standard way – you access most of the tools from menus or floating toolbars that can be opened or closed as required.

One of the big new features in this version is the GIF and JPEG optimisers, which work well. The JPEG optimiser lets you choose a level of compression and previews how the compressed file will look. There's also a guide to how long the file is likely to take to download, and the option to use normal or Progressive JPEG formats.

The GIF optimiser gives an extremely good level of control over the creation of GIF files, including number

of colours, dithering, palettes and the usual onscreen preview and estimate of download time. There's also an excellent section on transparency that goes well beyond the usual 'which colour is transparent?' approach. This lets you select a colour range to be made transparent, or you can state that every colour within X per cent of a colour should be transparent.

The program can also automatically reduce the number of colours in an image, and it does a good job of making it look like the original with only a limited number of colours. Paint Shop Pro now supports the Digimarc system, so you can embed a small digital watermark in your image and track them if they're stolen.

The improvements help to keep Paint Shop Pro in a strong position. It lacks some of the high-end tools and capabilities of programs like Photoshop, but it provides all of the basic, everyday tools you're likely to need, and there are some excellent new tools to make the process of creating graphics quicker and easier.

It's worth noting that the version reviewed here is a beta test product, but the final version should be available now. This beta product is stable and close to the final release, but there might be changes in the features from the ones we've mentioned here.

★★★★★

Paint Shop Pro 6

Price £69.95

Pros A good, all round image editing program

Cons Lacks some of the high-end tools of other programs

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Fireworks 2

MACROMEDIA



Fireworks lets you check out the effects of several compressions on one screen

A relative newcomer, but it's full of features and aimed at Web graphics builders

Fireworks is new to the image editing market, and the program's whole raison d'être is to create Web graphics. It can be used for general image editing if necessary, but it's really focused on creating images that look good but don't take long to download.

One particularly good feature of Fireworks is slicing, where you chop an image into sections, each of which can be treated as a separate image. This comes in handy because parts of an image are better saved as GIF files (such as text), while others (like photographs) would be better as JPEGs.

Slicing the image gives you the best of both worlds, and the program can automatically generate the HTML to reassemble the image on your Web page as a table. It's not the only program that can do this – Paint Shop Pro can slice images too, but Fireworks' handling of slicing is better. Fireworks also integrates with Dreamweaver (they're both produced by Macromedia), so you can edit an image on a Web page by just double clicking on it in Dreamweaver.

Fireworks also has some powerful batch processing tools for processing files in various ways, including resizing and altering the number of colours. You can automatically create backup copies of processed files or rename them as they're processed, but you can't do more complex operations, such as slicing images or merging them together – you have to do this manually.

This level of batch processing would be fine for most circumstances, but it's nowhere near as comprehensive as

Photoshop's batch capabilities. It does have some nice touches, though, like the ability to find and replace a specific colour, text or URL (although the last two will only work if the file has been saved in PNG format).

Fireworks also has the familiar preview of various compression formats. In this case, it lets you see up to four different levels of compression on one screen. You can use a variety of presets (such as GIF WebSnap 128 colours or JPEG high quality) or you can create your own. There are also features to improve the quality of your images, like smoothing for JPEG files, which makes the problems created by the compression process less obvious.

Another good feature is the size wizard, where you define your target image size in kilobytes, and Fireworks tries to find the settings that will get you there. There's also an export wizard that will make (sometimes) helpful suggestions on working with the format you've selected.

Fireworks certainly hangs together as a package, and it has just about all the features a Web designer is likely to need. It wouldn't really cut it as a general image processing program (it doesn't support many file formats, for instance), but it does an excellent job of producing good looking Web graphics quickly and easily.

★★★★★

Fireworks 2

Price £163

Pros Plenty of tools for the Web designer

Cons Not suitable for general purpose image editing

Contact Macromedia UK

Phone (01344) 458 600

www.macromedia.com

Photoshop 5.5

ADOBE



Photoshop is a classic, and with this latest version, it's now even better

It's probably the best graphics program ever, but what does it offer for the Web?

Photoshop 5.5 is a high end program in both cost and performance. At over £400, it's the most expensive option in this labs test, but it's arguably the most powerful. It's long been the standard program for pretty much everybody involved in image editing on a professional basis, and this enviable reputation looks set to continue with this new version.

For the Web designer, there are plenty of new features, such as previews of compressed files, improved tools for reducing the colours in an image and better support for animated GIFs. Adobe is also pushing its new lossy GIF feature, where GIF files can be compressed more than usual.

The program looks similar to older versions, with the usual understated user interface and a few windows popping up onscreen. But most of the major changes are under the hood. One of these is the Save to the Web option on the File menu, which produces a preview of your image in up to four different formats and compressions.

This is a good feature – it even lets you save various settings if you find that you're using them a lot. You can use this same screen to preview the transparency of GIF files. It's also possible to create animated GIF files directly from images with layers – another nice addition that plenty of people will find useful.

Many of the new features in version 5.5 come from the bundling of the graphics program ImageReady 2. This was previously a separate product, but it's now only available as a component of Photoshop. ImageReady includes an animation builder and the ability to create JavaScript rollovers (where an image changes when you move the mouse over it).

There's no doubt that Photoshop is an incredibly powerful program, but much of this power would be wasted if all you wanted to do was create a few Web graphics. If you're looking for an all-in-one program for image editing, this is still the best overall option. But if you're only interested in creating graphics for the Web, you might be better off looking at a low-end solution, such as Paint Shop Pro or a dedicated Web graphics program like Fireworks.

Adobe is planning to release a cut-down version of Photoshop (Photoshop Limited Edition, as opposed to Photoshop LE, which is bundled with scanners and digital cameras), but no information about pricing or features was available at the time of going to press.

★★★★★

Photoshop 5.5

Price £410.08 (upgrade from version 4 £151.58)

Pros Extremely powerful, flexible – can do pretty much anything you want to images

Cons Expensive, overkill for most day to day Web design uses

Contact Adobe UK

Phone (0181) 606 4000

www.adobe.co.uk





EQUILIBRIUM

DeBabelizer Pro



If you've got a lot of images to work with, there are excellent batch processing options

This heavyweight image processor can take whatever you care to throw at it

Calling DeBabelizer Pro powerful is like saying an elephant is big – it's true, but you're missing the point. This program is the Rolls Royce of image processing. It can load and save images in 90 file formats, supports Photoshop plug-ins and can even work with video files.

Unsurprisingly, DeBabelizer has plenty on offer for the Web designer. There's full support for all of the file formats you're likely to come across and some incredibly powerful image processing tools.

There are also some powerful tools for editing colour palettes. This is particularly important with Web images, as many computers can only display a certain number of colours, so graphics on a site can look bad if they don't use these colours. DeBabelizer includes a set of palettes for Web-safe images, and you can even take the palette of one image and apply it to another.

This tool alone could save you hours of work – if you're creating a Web site that uses graphics from a printed manual, you could use this tool to reduce the number of colours in the graphics and make sure they're all Web safe. You could even do it automatically, using the batch processing capabilities of DeBabelizer.

Like Photoshop, any operation that can be done manually in the program can be recorded and carried out on a number of files, making the process of converting groups of files, and otherwise fiddling with them, much easier. For instance, if you had a series of photos from a printed catalogue, and

you wanted to resize them and increase their contrast, you could save them as heavily compressed JPEG files. You'd simply create a script that processed the image (by doing it while DeBabelizer records your actions) and apply this script to a list of files.

But, once again, this is only the tip of the iceberg – scripts can run external programs or make decisions, opening up a whole set of possibilities. There's also a good selection of scripts that perform common tasks, such as compositing images (so you can add logos to a set of photos, for instance) and changing colour depth.

But there are some things missing here that you can get in other programs. You can't do multiple previews of file formats and compression levels, and there are none of the Internet-specific tools (such as JavaScript rollovers) that some programs include.

What you do get is an excellent program that can handle just about anything you choose to throw at it. If all you want to do is process images for the Web, you'll probably be happier using a program like Paint Shop Pro. But if you need to deal with large numbers of images from (and for) other sources, DeBabelizer's well worth considering. It's not a cheap option, but it does a stunning job of processing images quickly and easily.

★★★★★

DeBabelizer Pro

Price £383

Pros Powerful, supports more file formats than you can shake a stick at
Cons Limited Internet-specific tools, expensive

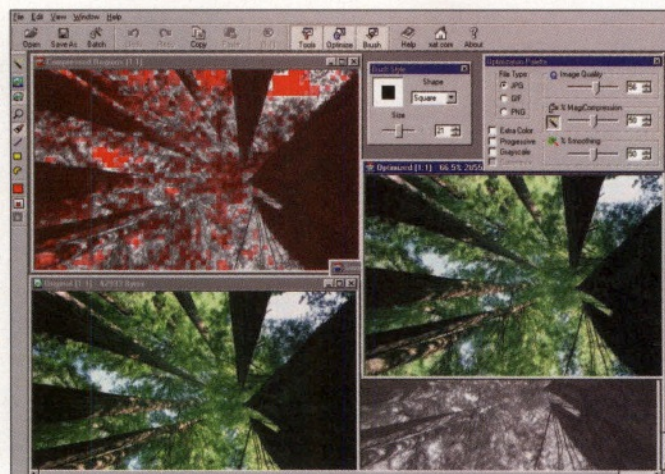
Contact Equilibrium

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www.equilibrium.com

XAT.COM

Image Optimizer



One for the control freaks – you decide exactly how every part of the image will look

For total control over compression and quality, this could be the one to choose

Image Optimizer is a sophisticated program that gives you an excellent level of control over how your images are compressed. The other programs in this labs test don't offer you this much control – they let you select the level of JPEG compression or the number of colours in a GIF file, but that's about it. Image Optimizer lets you control exactly how every bit of your image is compressed.

The program can work in two modes – whole image or regions. In whole image mode, the entire image is equally compressed. In regions mode, you (or the automatic MagiCompression system) draw a mask that controls how the image is compressed. When you choose the JPEG option, you can control compression and smoothing, while the GIF option lets you control dithering and smoothing. With GIF files, you can set the number of colours used in an image with a simple slider.

This sounds odd, but it works well. Imagine you're trying to get a portrait photo as small as possible in a JPEG file. With most image editing programs, you can only do this by increasing the JPEG compression, which loses quality. This isn't a problem for most of the image, but the last thing you want to do is lose quality in the face of your subject.

Image Optimizer lets you create a mask, so the background is heavily compressed, but the face is only slightly compressed. This would give you the

excellent combination of a smaller file with high quality in the important bits.

The batch processing capabilities mean you can optimise a group of images in one go. But you can't work in regions mode for this – you have to do that manually.

Image Optimizer works well, but it can be rather confusing to work with. The help files that come with the program are minimal, and the process of creating masks can be difficult for a beginner.

Fortunately, the program is intelligent, and most of the time you can use the built-in palette selection tools and the intelligent compression mode to get it to do the work for you. GIF and PNG formats are supported, but not 24-bit PNG files.

Image Optimizer is a specialist application. There are no image editing tools, so it works best alongside other image editors. But it's better than the other programs in this labs test at compressing files, and it gives you significant reductions in file size and download times.

On most of the images we tried (which had been previously compressed by other programs), it reduced the file size by an additional 10-30 per cent and the quality remained high.

★★★★★

Image Optimizer

Price \$39 (around £25)

Pros Excellent level of control over image compression

Cons Rather complex to work with

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Phone N/A

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NetGraphics Studio 2

This will sort out your images for the Web, and comes with its own photo collection

NetGraphics Studio 2 is two products in one – the NetGraphics Optimizer and the NetGraphics Gallery. The latter is a CD full of images that you can use on the Web. There's just about everything you could want here. All the images are indexed with keywords, which you can use to search through the gallery.

The quality of the images is high, but it's not as good as the online photo agencies (such as Photodisc at www.photodisc.com/uk), which let you search their collections of hundreds of thousands of images and buy them online. Still, the gallery is a useful selection of images that could prove handy, and they won't cost you extra.

The NetGraphics Optimizer, as you might expect, is a program for optimising graphics. But this is all it does – you can't edit images in the program (apart from resizing them) or do anything fancy, such as combining images – it just takes images and optimises them for the Web.

It takes a wizard-based, step by step approach – load your graphics into the program and Optimizer analyses them, recommends a format, and takes you through the process of compressing them. The whole process takes six major

steps – loading the image, resizing it, choosing the format, setting the compression (and other) options, setting interlace or progressive options and then saving the image to disk.

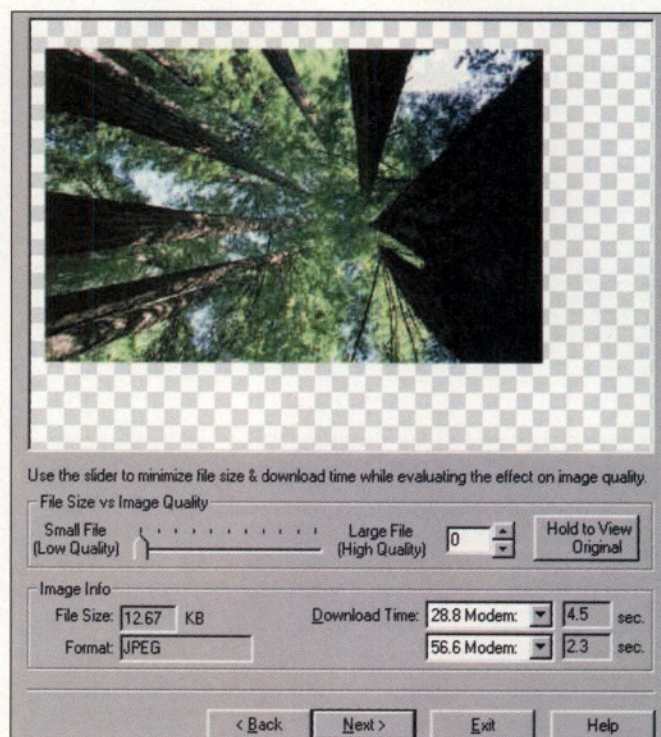
The program gives you plenty of help along the way, and there are some good, unique features, like the chance to preview how the image will look when it's downloaded on a range of different types of connection, ranging from a 14.4kbps modem to a 10Mbps LAN.

Both GIF and JPEG formats are supported, but there's no support for the PNG format. Progressive JPEGs are supported, though, and there's plenty of control over JPEG compression and the number of colours in GIF images.

There's also a batch processing option – after you've processed one image in a certain way, you can apply the same settings to a group of images. This option is easy to use and lets you resize images – you can also convert them to other formats.

The Optimizer does a nice job, but it seems to have been left behind by the improvements in other image editing programs. Many of them (including Photoshop, Paint Shop Pro and Fireworks) now include many of the features that Optimizer has as standard. It has some nice touches, like the preview of what the images are likely to look like as they're downloaded, but these aren't essential.

You might find the preview feature useful if you've got an old graphics



The NetGraphics Optimizer takes you through the process of compressing images

program that you don't want to upgrade. It's much cheaper than buying a new graphics program, and it does a reasonably good job of optimising your images. But if you've got some money to spend, you should consider buying a copy of Fireworks – it's a far more powerful product.

★★★★★

NetGraphics Studio 2

Price £50

Pros Good, simple to use system

Cons No PNG support, no editing tools apart from resizing

Contact Hemera

Phone (819) 772 8200

www.Hemera.com

Web graphics software compared

Program	Company	Price	GIF	Animated GIF	JPEG	Progressive JPEG	PNG	WYSIWYG Compression	GIF transparency	Batch processing	Rating
DeBabelizer Pro	Equilibrium	£383.00	✓	✓	✓	✓	✓	✗	✓	✓	★★★★
Fireworks 2	Macromedia	£151.50	✓	✓	✓	✓	✓	✓	✓	✓	★★★★
Image Optimizer	xat.com	\$39	✓	✗	✓	✓	✓	✓	✓	✓	★★★★★
NetGraphics Studio 2	Hemera	£50.00	✓	✓	✓	✓	✗	✓	✓	✓	★★★
Paint Shop Pro	JASC	£69.95	✓	✓	✓	✓	✓	✓	✓	✓	★★★★
Photoshop 5.5	Adobe	£410.08	✓	✓	✓	✓	✓	✓	✓	✓	★★★★★

Conclusion: which is the best?

The image tools we've reviewed in this labs test offer a wide range of features and different capabilities, making it difficult to pick a clear winner. Most of the programs are suited to different types of users, so think about what you want from a graphics package before you choose one. If cost is a factor, Paint Shop Pro provides an excellent general, all round solution at a low cost. It doesn't have some of the fancy features of the other programs, but it would be fine for most users, and it's cheap.

For the high end user, Photoshop and Fireworks are excellent solutions. We'd advise Photoshop if you're going to do more than just Web graphics, because the program is equally at home working with 30kb GIF files as it is with 30Mb TIFs. But if you're going to be working primarily or solely with Web graphics, Fireworks would be the package for you.

Macromedia's decision to focus purely on Web graphics has paid off, as the program does an excellent job of streamlining the process of

creating and editing graphics, and Dreamweaver users will be delighted with the integration of the two programs.

An honourable mention should go to Image Optimiser, as it does an excellent job of shrinking images. It's probably a bit specialist for many users (and the savings in image size might not be that important to some), but for heavy users or designers who use a lot of images on their pages, it's an essential, as it can usually save between 10 and 30 per cent of the file size.

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New Products October

This month's selection includes a streaming media convertor, Web site chat and message software, a multimedia creator, an Internet tracer and a preview utility

STREAMING MEDIA CONVERTOR

Media Cleaner Pro

Convert audio and video files into all manner of streaming media for your site

More and more Web sites are adding streaming video to their repertoire in the never-ending fight to gain more visitors. But the advent of streaming media introduces a new set of challenges for the overburdened webmaster. Apart from having to shoot the video of the chairman playing golf, there's the tedious process of transforming this video into a format that can be used on the site.

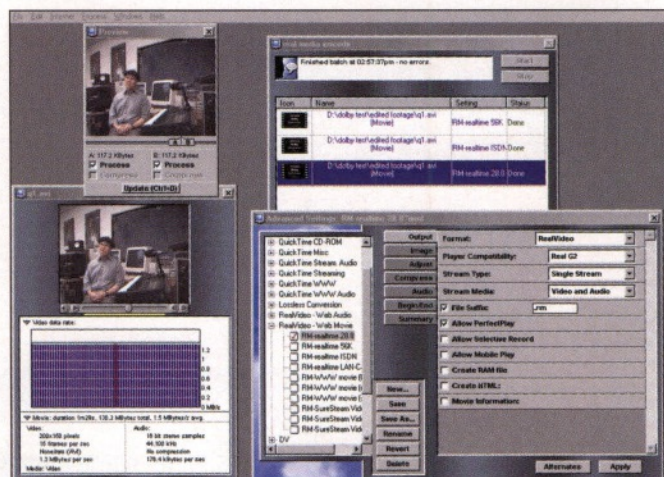
If you choose a single format (such as RealVideo or QuickTime), it's not too difficult – you just download the tools from the manufacturer's Web site. But if you want to use several different formats (so your visitors can choose the one they have the software for), it can be a real pain.

Media Cleaner Pro is designed to deal with this kind of situation. At a basic level, it can transform most audio or video formats into any one of a range of streaming media file types, such as RealMedia, QuickTime or Microsoft's Windows Media. But this is just the tip of the Media Cleaner iceberg – the program can easily encode a single file into a variety of formats. For instance, the program can be used in batch mode to create RealMedia, QuickTime and Windows Media versions of the file, or encode several different files while you head for the pub.

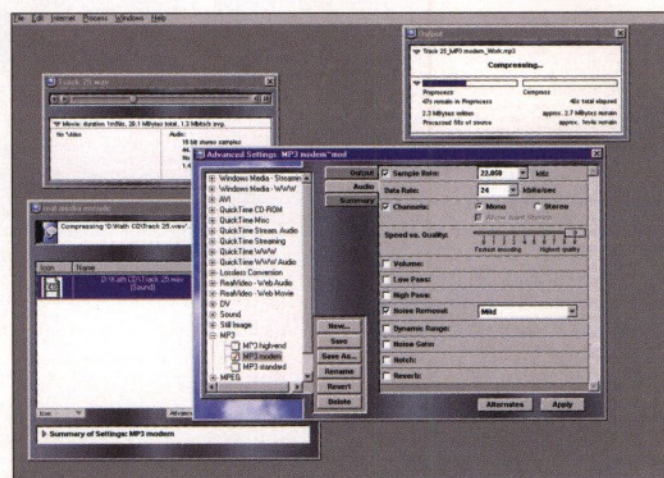
Setting up

Setting up the encoding process is easy – you just select the file to work on, and the format you want to encode it to. There are a variety of presets (such as Real Media Video for 28.8k modems), but you can alter these or create new ones as required.

The program has a good selection of filters that can be



The Media Cleaner gives a preview of what the encoded file will look like



Media Cleaner Pro can also create high quality MP3s from audio files

applied to your audio and video. These can get rid of noise and interference, or to overlay one video source on top of another. You could use this to add a watermark or a logo to your file, for instance. You can also change the size and other qualities of your video during the encoding to improve its quality.

Media Cleaner's audio filters let you enhance the quality of your audio files, and include noise filters to reduce static hiss. The excellent manual that comes with the program covers this in some detail. Unfortunately, some of the features it mentions aren't yet implemented on the PC version.

No hanging around

The encoding process is fairly quick. Encoding a 15 frame per second video stream (at a resolution of 200 by 150 pixels) took about 90 seconds per minute of video on a Pentium III 450MHz PC. But you can significantly increase this time by using filters. For example, adding a noise removal filter for audio and video increased this time to nearly three minutes encoding time per minute of video.

These encoding times are nothing to write home about, but they're about the same as you'd expect with other encoding tools, and certainly no worse.

What impressed us was the quality of the encoded audio and video. Judicious use of the filters can greatly improve the quality of the output, so it looks far better than you get with tools such as Real Network's Real Producer.

Happy Macs

In a break from tradition, the Mac version is further ahead than the Windows product. It has features like an Adobe Premiere plug-in and HelperApps (scripts that automate the encoding process). The Premiere plug-in means the encoded video can be passed straight from Adobe Premiere (the popular video editing program) straight into Media Cleaner Pro, which makes the process of encoding far easier.

Both versions have full support for the MP3 audio compression standard (thanks to the inclusion of the Fraunhofer MP3 codec), and the quality of the MP3 it produces is excellent, particularly with the quality set on high (although this takes about five minutes to encode one minute of audio).

The only problem I could find is the manual doesn't always correspond with the program – it implies there's a Premiere plug-in for the PC, but this isn't available yet. It also doesn't mention the MP3 capabilities of the program, but these are covered on the Web site.

There's also a cheaper version of the program called Media Cleaner EZ, which doesn't have the powerful batch processing capabilities.

Richard Baguley

★★★★★

Media Cleaner Pro

Price £383 (EZ version £81)

Pros Easy to use, comprehensive streaming media format support
Cons Manual doesn't always correspond with the program
Contact Terran Interactive /Computers Unlimited (UK distributor)

Phone (0181) 205 2534
www.terran-int.com

Gooley



Gooley lets you chat with fellow users of any Web site

A program that lets you chat with other people on any Web site you like

Online chat systems are nothing new – many Web sites let you chat online with other visitors. But Gooley has one major difference that sets it apart from the others – you can talk to people on any Web site.

If, for instance, you're visiting the BBC news Web site (<http://news.bbc.co.uk>), you might feel inspired to chat with other people looking at the same site about what's on the page. So Gooley gives you a list of people who are on the same site. You can then chat to them individually or as a group.

The chat interface appears in a small window that appears at the top of your browser and includes a central pane that carries advertising. At present this seems to promote only Gooley itself, but it'll presumably change as the service becomes more popular. The client software is around 1.7Mb, so it takes a fair time to download.

The system seems reliable – it didn't crash once on our test computers, although it did fail to work on a system behind a firewall. This is because the firewall blocks the Gooley traffic, so you won't be able to use it on a corporate system unless you can persuade your network manager that online chat is a valid use of resources – and let's face it, that's unlikely.

While the technology works well, it shares the problem of all online chat systems – finding someone to talk to. Gooley has been available for some time (and has been heavily promoted in the US), but there's still not many people using it.

Even popular sites like CNN.com (www.cnn.com) or News.com (www.news.com) only seem to have a few people using Gooley, and few of them wanted to chat. Ironically, the most popular sites for chatting (the Gooley client supplies a section called Hitwave that lists of the 20 most popular) seem to be the ones for other forms of instant messaging software, such as ICQ or Yahoo's chat service.

This Gooley software falls somewhere between an instant messaging service (such as ICQ) and ThirdVoice, but it lacks the strengths of both. You can't get hold of people directly unless they're on the same site as you, and you can't leave messages on specific sites or for users who are offline.

The system works well (with the exception of the firewall restriction), but it lacks the features that'd make you want come back and use it repeatedly.

The only real niche where these drawbacks with Gooley might not apply would be in specialist sites, but many of these are already offering their own chat services using other systems, and they don't require the lengthy download of the Gooley software.

Richard Baguley

★★★★★

Gooley

Price Free

Requires Windows 95, 98

Pros A simple system that works well and doesn't take up many resources

Cons Most sites only have a few people on them. Doesn't work with firewalls

Contact Hypernix

Phone (9723) 620 3832

www.gooley.com

Illuminatus 4

Create interactive multimedia and Web content with this user-friendly package

Illuminatus is a substantial package for the budding multimedia developer. The program's been designed for a variety of users, but it's best suited to anyone producing educational and corporate publications. You can develop anything from screen savers and slide shows to interactive multimedia and Web content.

Most graphics packages are similar, employing common tools and functions, resulting in cross-package understanding. But

a CD-ROM or spliced for copying to a series of disks, complete with automatic functions to install and compile the files.

Objects are placed on the screen – buttons, text, Web browser boxes and images. You can edit their properties by double-clicking on the object. You can use a variety of image formats, but you're naturally restricted to GIFs and JPEGs for Web-based content.

The published JavaScript and HTML output was clean and tidy. Some of the content produced by the program can only be viewed by visitors using a plug-in, but you can download this from the Digital Workshop Web site.

The software supports a number of variable-setting actions, a point

that's stressed in Illuminatus's introductory sequence. This is a multimedia guided tour of the functions interspersed with (what can sometimes be unnecessary and over-complicated) explanations of how certain functions work.

The tutorials

are straightforward and truly help you to build your design – you'll be able to publish your first slideshow in an evening.

This package works on Windows 95, 98 and NT, but it had a tendency to crash with Windows 98.

If you want to learn how to create multimedia content, you could do far worse than buy this product. But it's limited if you're intending to pursue a career in multimedia or Web design. If your heart's set on the Web, it's worth spending an extra £50 on Flash 4.

Charlie Young

★★★★★

Illuminatus 4

Price £149.95

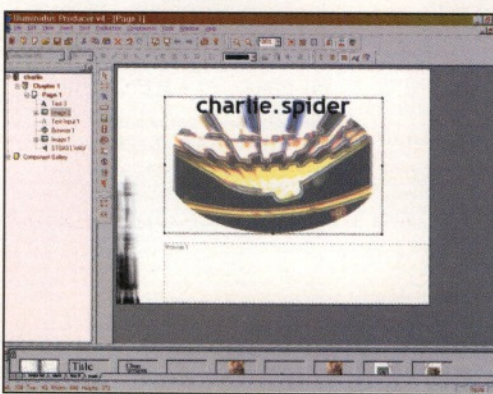
Pros Ideal for presentations and education-based multimedia

Cons Unlikely to appeal to Web enthusiasts and professionals

Contact Digital Workshop

Phone (01295) 258 335

www.digitalworkshop.co.uk



Illuminatus is ideal for beginners and has great tutorials

Illuminatus takes a different approach to design. You can control the level of complexity, so it's user-friendly for beginners. But anyone more experienced in Web design will be frustrated by the lack of drawing palettes and the location of object properties in a tabbed menu.

The program uses five wizards – a publishing tool, page layout, a gallery, publication organisation and interactive question field setting. All of these simplify what could otherwise be highly complex operations.

The program's level of interactivity and use of media are excellent. The multimedia publications can handle audio, video and even browser windows. The outputs range from Web-based to multimedia with full control – Illuminatus will automatically create an [autorun.inf](#) or [setup.exe](#) file if you want one.

The published Web site, multimedia content or presentation can be prepared for recording onto

ThirdVoice

Now you can let people know exactly what you think of their Web site

ThirdVoice lets you add your own opinions to other people's Web sites. The software is free to download and works next to your Web browser (it's currently only compatible with Internet Explorer 4 or above on a PC).

Sites that have messages attached to them have a small red arrow wherever there's a message (see Bill Gates' Web site, pictured, at www.microsoft.com/BillGates), and you can read the associated note by clicking on it. To add a message to a site, you select the text that you want the note to appear by. You then click on the post button on the toolbar that appears at the top of your screen.

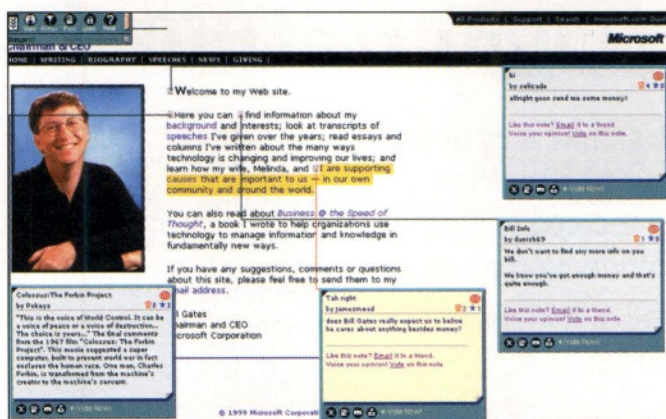
The messages appear on the Web page, but they aren't held on

the Web server that hosts the page. They're held on the ThirdVoice server, which is completely unconnected to the site you're looking at. Whenever you look at a page, the ThirdVoice software connects to this server and downloads the messages.

The site author can't alter or remove these notes, which is great—until someone does it to your Web site. Most of the messages attached to www.whitehouse.gov relate to some recent cigar-based events that President Clinton would rather forget, and the notes on Bill Gates's personal page on the Microsoft site are less than complimentary.

But you can only read the messages if you have the ThirdVoice software installed. The vast majority of browsers won't even see these identifying red arrows.

The system works well, but there are a few problems. Many of the messages are linked to porn sites and a hacking group has demonstrated how to use the



Messages left on Bill Gates's personal page (www.microsoft.com/BillGates)

ThirdVoice client program to access people's computers. This security hole has now been patched, but there are no guarantees that there aren't others in the program. Although, to be fair, the same risk applies to any program that accesses the Internet.

You can only use the program if you use Explorer on a PC, but a Navigator version is on the way. There's also the interesting issue of who'd be liable if a message on a site is libellous. Despite these concerns, ThirdVoice is an excellent

system that lets you add your own comments to a site.

Richard Baguley
★★★★★

ThirdVoice

Price Free

Pros You can add your own notes to any Web site

Cons It only works with Internet Explorer

Contact ThirdVoice

Phone (1650) 591 1200

www.thirdvoice.com

c&www.mad

Take a look at what's on offer from other ISPs and you'd think the world's gone mad. But are things really as free and easy as they seem? Are telephone calls included? Is your access time limited? Are there restrictions you don't need? Isn't there anyone out there who can make you a sensible offer?

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Or call 0800 0923 002 to subscribe (quoting ref: RACING).



CABLE & WIRELESS

Visual Traceroute

A simple way to find out where a Web host is located and check connection problems

Ever wondered which country a URL is located in, or who owns it? Or about the route that data takes from a site in Australia to your home? If so, Visual Traceroute can satisfy your curiosity.

There are also professional reasons why you might want to use this utility. There might be a distant server that holds your own Web pages and you suddenly can't reach it. Or perhaps there's a site that your colleagues can access easily and download from, but which is a struggle for your machine. You'll want to find out whether your ISP is to blame.

We want information

Visual Traceroute investigates your connection to a Web site and tells you everything it can – the route, the site owners, and whose machinery the data passed through on its journey down the line.

It's a deluxe version of the basic Traceroute utility that comes free with Windows 9x (see the Basic

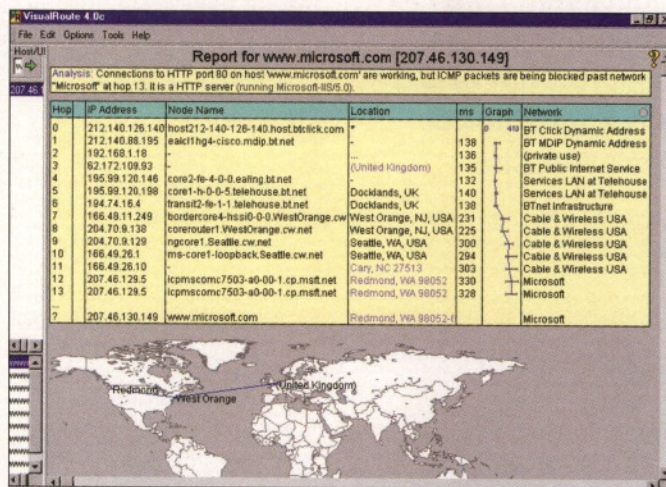
Traceroute, below). The problem with the basic Traceroute is it's not always easy to interpret the results. Which one of the 35 hops is causing a problem? What's the location of the node (router) identified as h3-o.vienna1-cr2.bbnpla.net? Vienna is mentioned, so you'd imagine it was in Austria, but it's actually in Virginia in the US. And who runs the node 196.ATM6-o.XR1.LAXA4.ALTER.NET? It's not obvious, but it's run by UUNET PIPEX.

Added value

This is where Visual Traceroute shows its value. It doesn't just give you all the letters and numbers that ordinary Traceroute gives you, it interprets them too. The geographical and ownership details for the two nodes in Virginia and UUNET above came from Visual Traceroute.

The basic Windows 9x version can't supply these details. Visual Traceroute also shows connection times for the various hops in graphical form, so you can easily spot the slow areas, and it tells you if it thinks any of the nodes aren't working properly.

As well as all these details, you get a world map showing the locations of the main nodes your



Visual Traceroute adds a lot more clarity to Traceroute information. You can see real routes at a glance. This is the result for www.microsoft.com.

connection went through. The map's adjustable, so if you're only investigating a site in Europe, you can get a close-up and see more detail.

It's a great utility to play with. You can look up www.microsoft.com or the Australian government and get all kinds of interesting results. For instance, you'll find that sites you imagined to be in India or South America are actually hosted in the US, where connections are more reliable.

DOMAIN: cw.net (whois.internic.net)

Cable & Wireless, Inc. (CW3-DOM)
1919 Galloway Road
Vienna, VA 22182

Domain Name: CW.NET

Administrative Contact, Technical Contact, Zone Contact:
Cable and Wireless USA (NTC3-ORG) dns@CW.NET
1 800 977 4662

Fax: 1 919 378 6744

Billing Contact:
Cable and Wireless USA (NTC3-ORG) dns@CW.NET
1 800 977 4662

Fax: 1 919 378 6744

Record last updated on 18-Mar-99.
Record created on 13-May-95.
Database last updated on 18-Aug-99 04:38:58 EDT.

Domain servers in listed order:

NS.CW.NET	204.70.128.1
NS2.CW.NET	204.70.57.242
NS3.CW.NET	204.70.25.234
NS4.CW.NET	204.70.49.234

A Whois search on a site or even a node along the way will display Internet registration information.

On a more practical level, it gives you excellent ammunition when you think your ISP is messing up your connection. And if your own site is playing up, you can see if your host company has it in for you personally or if they've lost their entire network.

Advanced features

Further advanced features let you run a 'Whois' search on sites and nodes, so that you can find out who owns what. It is possible to conduct this kind of search without Visual Traceroute, but it's far more convenient to find it included in the package.

If you're checking a lot of sites for geographical placement, ownership details and backbone connections, Visual Route will definitely save you a lot of time.

There's only one negative side to the program – the registration system. If you decide to transfer your copy of the program from one

machine to another, you'll need a degree in maths, a lot of patience, and the number of the Datametrics technical support line. It's a nightmare.

Otherwise, all you need to run Visual Traceroute is a Java environment (if you've got IE 4 or 5 installed, you'll already have this) and a firewall-free Net connection. You can try out the program for yourself at the Datametrics Web site, or download a trial.

Andrew Starling
★★★★★

Visual Traceroute

Price \$29 (around £19)
Pros Great fun, could also save time for professionals
Cons Registration system is awesomely bad
Contact Datametrics
Phone (01372) 378 899
www.visualroute.com

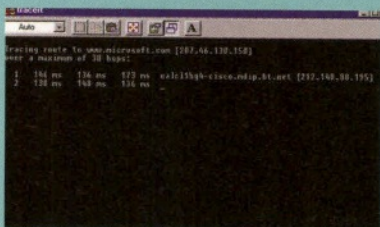
Basic Traceroute

All Windows 9x machines have Basic Traceroute installed. This utility lets you check each step (also known as a hop) of your connection to a specified URL. From the Start menu on your PC, select Run and type in TRACERT, plus the name of the domain you want to check, such as TRACERT www.microsoft.com.

On a DOS screen, you'll be shown each node (router), its IP address and the time it takes to reach that node from the last one.

Three time checks are made for each hop.

If you're not in a hurry, it's better to use the DOS shell rather than the Run menu. The results will continue to be displayed after Traceroute has finished.



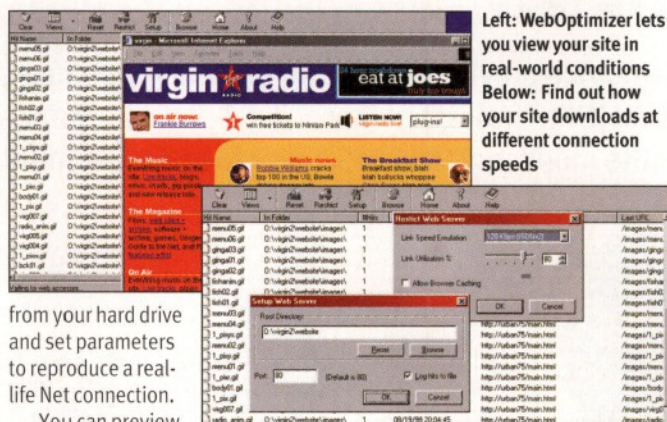
WebSpeed Optimizer

Check how your site looks and performs with this handy preview utility

We've all grimaced at painfully slow Web pages. But authors can now preview their work through WebSpeed Optimizer before inflicting it on the Net.

Most designers either preview their work on their own hard drive or through their own Internet connection. But they usually have no idea how their site will look to visitors with ye olde modems, slow terminals and heavy traffic.

WebSpeed Optimizer lets you feel the same pain as normal folk who aren't blessed with a 2Mb connection. It works by emulating an HTTP server on your desktop PC and lets you simulate various Internet load conditions without having to upload your work. The program has a simple, if slightly confusing interface, which lets you select a site



Left: WebOptimizer lets you view your site in real-world conditions
Below: Find out how your site downloads at different connection speeds

from your hard drive and set parameters to reproduce a real-life Net connection.

You can preview your work at several connection speeds, from an ultra-slow 1,200Kbps (ah, memories) to a dream-like 256Kbps and beyond. An adjustable 'Link Utilization' control lets you allow for non-optimal bandwidth use, and you can turn off Web caching for more realistic results.

A report window generates a list of files found, displaying any broken links. Annoyingly, this doesn't give you file sizes, but it's due to be fixed in version 2 of the program.

WebSpeed Optimizer comes into its own when it displays what happens when your visitors look at your pages in less than ideal conditions. A badly designed Web page can remain blank for 80 per cent of the download, while unnoticed heavy graphics could be scaring away precious visitors. Java developers should find the program interesting as it lets you monitor how Java class files are loaded – which can be very s-l-o-w-l-y.

Using WebSpeed Optimizer, you can make sure your text and graphics are loading as you'd expect under a variety of conditions, and you can identify areas of your site that are slowing things down.

Many designers fail to appreciate how their work will look in less than perfect conditions and I'm sure many frustrated browsers would demand compulsory use of this program in Web design studios.

It's not perfect, but WebSpeed Optimizer is well on the way to becoming an indispensable tool for Web authors who care about how their work looks to all their visitors.

Mike Slocombe

★★★★★

WebSpeed Optimizer v.1

Price \$99 (around £64)

Pros An essential tool for simulating real-world downloads

Cons Confusing interface, file sizes not displayed

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www.xat.com

c&www.madder

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CABLE & WIRELESS

EXCLUSIVE

provider lab

The biggest and best tests // Don't choose an ISP until you've read the results

Find out how the UK's top service providers score in *Internet Magazine's* exclusive ISP lab tests. Every month we put the best ISPs through a rigorous set of performance tests, so check out how yours has scored. And for the most consistent ISP over the past six months, turn to page 152

The winner

Mistral Internet has gradually risen through the upper reaches of the rankings over the past few months, and now it's deservedly hit the number one spot.

Cable & Wireless Internet Lite, in fifth position, is the top performing free ISP for the second month running. The sister service for paid subscribers, Cable and Wireless Internet, has dropped to seventh place. While this isn't a significant drop, the paid-for service could struggle for subscribers with the free version doing so well.

It's another good month for free ISPs, with nine in the top half of the table. There's a cluster of free providers around the mid-twenties, topped by Virgin Net in 24th place. UKOnline is at 27th, a similar position to last month, and new entrant Madasafish is in 26th place.

There are two other new free ISPs this month—Breathe and IPNet. Both have made respectable entries



MISTRAL

at 42nd and 49th place respectively.

FreeDotNet has lost its advantage and slipped a long way from 18th to 51st place. And we say a fond farewell to Mitsubishi Electric Internet Services, which, despite good performances in recent

months, will be leaving the ISP business from 30 September.

This month, the free ISPs have wiped out the concerns about their quality of service. They've averaged better results than the subscription services in October's tests.

Test improvements

We've been enhancing the tests over the past few months, and you can see the outcome of our work in October's rankings.

In previous months, it was common to see ISPs moving more than 50 places either up or down the table. For instance, there were 15 ISP movements of this size in May, and 16 in March. This inspired us to look

at the tests in detail, to see what was causing these swings, and to check that they were representative of an ISP's performance.

The major cause of the large jumps was hung connections—when the Internet seems to take a rest and nothing much happens on-screen.

Hung connections are an important, if frustrating element of performance testing. But by selecting different sites, and changing our statistical analysis, we've successfully incorporated them into our results without allowing them to destabilise the final rankings.

As a result, there are only five big movers (see Uppers & downers, right) this month. Two of these providers—Newnet and Ace Internet—have managed to regain their more familiar, high positions after unusual results in September.

Compared to past months, there's less movement of ISPs up and down the table in general, and we believe the rankings are more useful now than they've ever been.

If you're looking for a new ISP, this is the place to start.

Uppers&downers

NEWNET

This month's biggest riser, moving 77 places from 81st to 4th. Newnet regains its usual position after a big fall last month.

AVANTE

A relative newcomer picks up 51 places to 22nd position. Avante's download speeds have improved all round.

ACE INTERNET

Up 48 places to 12th position. Another ISP recovering from a bad result to take up its familiar position near the top of the table.

I-WAY SOHO

Down a massive 80 places to 104th, wiping out the significant gain made last month.

DIRECT CONNECTION

A drop of 51 places from 27th to 78th position, due to poor availability and slow US download speeds.

The only ISP tests that count

The *Internet Magazine* ISP tests are based on proven scientific testing principles. We make sure we connect to each ISP many times—which means we make thousands of calls.

The results produced by this extensive testing are then processed, resulting in the test analysis and ranking figures you see in these pages. At every stage, the results are checked to make sure they're accurate.

Please remember that these tests are only designed to examine the availability and speed of an ISP—we don't test their prices or technical support. For the lowdown on the complete set of services provided by the top 30 ISPs, you can get hold of our gigantic ISP of the Year feature from our Faxback service on page 157.

In the first issue

There were only 12 providers in October 1994, compared to nearly 700 today. Some of these ISPs are still going strong, such as Demon, Pavilion Internet, CIX, REDNET and Direct Connection.

5
today



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Key

Free

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Business

This month's best-performing ISPs, as tested in *Internet Magazine's* labs

This Month	Last Month	ISP Name	Telephone	Availability (%)	Overall average Web speed (seconds)	Average UK Web sites (seconds)	Average US Web sites (seconds)	Average European sites (seconds)
1	8	Mistral Internet	(0800) 328 7253	96.80	10.42	8.31	10.61	15.60
2	11	Internet UK	(0845) 070 0006	99.09	10.77	8.45	10.67	18.32
3	30	Uninet Internet Services	(0800) 783 7499	98.92	10.79	8.76	11.17	14.65
4	81	NewNet	(07000) 639 638	100.00	10.96	8.46	11.23	16.84
5	5	Cable & Wireless Lite	(0800) 092 3001	97.32	10.76	8.59	10.86	16.61
6	1	VAS-NET	(01732) 866 529	100.00	11.07	8.43	11.51	16.33
7	3	Cable & Wireless Internet	(0800) 092 3013	100.00	11.11	8.46	11.37	17.54
8	32	Datanet	(01252) 810 081	99.09	11.03	8.82	11.20	16.58
9	19	UUNet (Pipex Dial)	(0500) 567 000	100.00	11.16	8.77	11.56	15.93
10	2	DIALNet Connect	(0800) 881 881	99.08	11.12	8.32	11.20	18.98
11	17	ENTANET	(0500) 368 263	93.96	10.60	7.82	11.05	16.22
12	60	Ace Internet	(0705) 066 7423	100.00	11.31	8.86	11.35	18.40
13	39	Pavilion Internet	(01273) 607 072	100.00	11.31	8.82	11.71	16.39
14	28	Pinnacle Internet	(01903) 524 999	97.87	11.15	9.16	11.42	15.48
15	31	Primex	(01908) 643 597	97.84	11.23	8.91	11.59	16.00
16	7	REDNET	(01494) 513 333	98.92	11.36	9.00	11.94	14.99
17	12	Interactive Web	(01926) 450 099	95.61	11.01	8.64	11.43	15.65
18	16	Internet for Business	(01224) 333 370	96.39	11.12	9.10	11.19	16.76
19	38	Nildram	(0800) 496 2903	98.19	11.34	8.75	11.40	18.71
20	4	ProWeb	(0500) 636 343	100.00	11.55	8.59	11.45	21.03
21	54	Netkonect	(0171) 345 7777	97.87	11.31	8.37	11.91	16.55
22	73	Avante Internet	(01283) 545 000	100.00	11.60	8.99	11.82	18.13
23	—	Icom-Web	(0800) 731 8419	93.65	10.90	7.89	11.83	14.34
24	55	Virgin Net	(0500) 558 800	95.61	11.13	8.51	11.15	18.88
25	63	Direct Net @ccess	(01232) 201 555	93.87	10.97	9.08	11.19	15.36
26	—	Madasafish	(09010) 222324	100.00	11.71	8.37	12.54	16.80
27	26	UK Online	(0845) 333 4567	97.32	11.44	8.34	11.82	18.41
28	36	inweb	(0845) 606 2014	100.00	11.75	8.66	12.57	16.14
29	6	U-Net	(01925) 484 444	97.87	11.51	8.72	12.28	15.32
30	53	Which? On-line	(0645) 830 240	99.08	11.71	8.29	12.47	17.37
31	56	The Internet Business	(01232) 424 190	100.00	11.88	8.97	12.37	17.65
32	45	Gemsoft	(0114) 275 7070	94.78	11.27	8.52	11.91	15.66
33	66	Cygnat Internet Services	(0181) 880 4650	97.87	11.65	8.77	11.87	18.99
34	59	Legend Internet	(01274) 743 500	97.87	11.66	9.26	11.92	17.28
35	14	CompuServe	(0990) 000 200	98.92	11.80	9.38	12.43	15.21
36	25	SoftProg NET	(0181) 788 0656	100.00	11.93	10.05	12.14	16.28
37	22	Cheapnet	(0990) 168 160	100.00	11.93	9.51	12.20	17.54
38	37	HiWay	(01635) 573 300	97.87	11.73	9.05	12.37	15.99
39	62	Freeserve	(0990) 500 049	98.92	11.93	9.64	12.28	16.68
40	23	Strongnet	(01703) 866 006	100.00	12.08	8.69	12.91	17.34
41	58	AIC-Entanet	(01279) 306 677	95.61	11.56	8.50	12.10	17.51
42	—	Breathe	(0800) 298 3030	100.00	12.10	8.85	12.84	17.46
43	48	ICM Netserv	(0800) 614 581	97.87	11.85	8.80	12.34	18.04
44	21	Mitsubishi Electric Internet Services	(0800) 226 600	100.00	12.31	8.80	13.62	15.01
45	35	Swift Internet	(0845) 6060210	98.36	12.12	8.19	13.06	18.31
46	9	Sonnet Internet	(0171) 891 2000	92.92	11.46	8.67	12.12	15.86
47	13	Global Internet	(0870) 909 8041	100.00	12.42	9.30	13.29	16.52
48	20	Internet Central	(01270) 611 000	98.92	12.39	9.02	13.10	18.23
49	—	IPNet	(0181) 788 0656	99.08	12.43	9.51	13.13	16.98
50	33	Power Internet	(01908) 605 188	98.90	12.43	9.99	12.72	18.00

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This month's best-performing ISPs, as tested in *Internet Magazine's* labs

Free			Subscription		Business		Overall average Web speed (seconds)	Average UK Web sites (seconds)	Average US Web sites (seconds)	Average European sites (seconds)
This Month	Last Month	ISP Name	Telephone	Availability (%)	Availability (%)	Availability (%)				
51	18	FreeDotNet	(0181) 938 3338	89.34			11.26	10.47	11.06	14.85
52	49	ClaraNet	(0800) 358 2828	93.10			11.75	8.95	11.46	21.89
53	10	NetDirect Internet	(0800) 731 3311	89.32			11.28	8.80	11.83	15.43
54	—	Plugin	(0800) 783 9250	97.29			12.35	9.20	13.33	15.92
55	47	Onyx	(0345) 715 715	100.00			12.71	10.32	12.87	18.96
56	44	Easynet	(0171) 681 4444	96.42			12.34	9.34	12.78	18.72
57	45	Intonet	(0181) 941 9195	98.92			12.68	10.37	13.29	15.96
58	96	Connect FREE	(0870) 742 1111	97.87			12.58	11.05	12.81	15.77
59	40	Freedom To Surf	(0181) 881 2111	100.00			12.88	11.88	12.74	16.70
60	24	Viper	(07050) 345071	92.30			11.92	7.95	12.59	19.76
61	61	Frontier Internet Services	(0171) 536 9090	100.00			12.97	10.64	12.94	20.09
62	43	Cerbernet	(0171) 360 8000	93.16			12.11	9.78	12.24	18.32
63	50	Newbury Internet	(01635) 569 123	97.32			12.66	9.62	13.45	17.04
64	74	SAQ Internet	(0870) 737 7700	100.00			13.08	10.32	13.80	17.01
65	80	Portland communications	(0181) 942 1115	98.92			12.97	9.29	13.82	18.96
66	64	CableNet	(0800) 195 8888	99.09			13.01	8.45	14.43	18.13
67	42	CommUnity Internet	(01865) 856 000	95.83			12.61	10.76	12.99	15.85
68	79	Prestel Online	(0990) 223 300	94.84			12.59	9.82	12.68	20.40
69	78	BT Click	(0800) 731 7887	99.08			13.21	9.86	13.88	19.22
70	—	Poptel	(0171) 923 9465	92.92			12.39	9.44	12.11	22.95
71	102	Technocom	(01753) 714 200	100.00			13.38	9.69	14.39	18.41
72	76	London Web Communications	(0800) 026 8306	91.52			12.25	9.23	12.65	18.93
73	65	BT Internet	(0800) 800 001	92.92			12.50	9.56	12.47	21.50
74	52	UK2Net	(0171) 538 0253	94.78			12.84	10.16	12.99	19.95
75	85	Interalpha	(01703) 363 200	99.09			13.53	9.09	14.62	20.33
76	67	WorldWide Web Services	(01784) 898 800	97.29			13.33	10.46	13.94	18.34
77	41	LineOne	(0906) 302 0100	90.19			12.37	9.16	13.51	15.12
78	27	Direct Connection	(0800) 072 0000	91.59			12.57	9.02	13.60	17.02
79	—	Firstnet	(0113) 294 4224	100.00			13.74	9.20	14.63	22.02
80	51	Ideal Internet services	(01942) 522 333	94.84			13.13	10.19	13.76	18.13
81	57	Demon	(0181) 371 1234	94.84			13.22	10.19	14.31	15.82
82	97	FreeUK	(0900) 900 0900	89.25			12.47	10.85	11.81	21.28
83	93	TIA NET	(0800) 092 6070	94.79			13.34	11.04	14.04	16.06
84	68	Aviators Network	(0700) 284 2867	96.46			13.59	9.43	14.59	20.03
85	72	Eclipse Networking	(01392) 202 345	92.85			13.11	9.69	13.90	18.63
86	75	Paradise Internet	(01256) 414 863	100.00			14.25	9.04	15.35	23.22
87	91	Cable Internet	(0500) 500 100	89.32			12.88	9.33	13.58	19.27
88	—	UKPeople	(0800) 542 5200	99.08			14.33	12.00	14.37	21.11
89	88	Telinto Internet Services	(0800) 542 0800	96.46			14.01	11.55	14.49	18.49
90	70	DNA Internet Services	(01604) 670 717	91.59			13.90	9.80	15.07	19.17
91	90	Enterprise	(01624) 677 666	95.83			14.59	11.66	15.01	20.79
92	46	Gifford Internet Services	(0117) 939 7722	88.46			13.46	11.39	13.90	17.08
93	83	Netcom Internet	(0800) 980 9107	97.29			14.95	9.27	16.74	21.24
94	82	Pipemedia OnLine	(01455) 828 218	100.00			15.47	10.99	16.64	21.84
95	77	Free-Online	(0870) 706 0504	74.79			11.69	8.36	12.65	15.92
96	87	Baynet	(01222) 256 401	96.77			15.20	12.31	15.79	20.36
97	71	Moonlight	(01276) 856 868	94.78			14.90	10.86	16.16	19.41
98	69	Vossnet	(01753) 737 800	100.00			15.76	13.26	16.26	20.28
99	101	Abel Gratis	(0131) 445 5555	95.78			15.34	12.77	16.32	17.15
100	89	CYBERphile Internet	(01543) 454 840	98.92			16.01	10.05	17.77	23.34
101	95	Discovery	(01203) 364 400	92.00			15.48	13.76	15.51	20.51
102	99	Zoo Internet	(0181) 961 7000	97.32			16.66	11.55	17.88	24.69
103	86	Force 9	(0800) 073 7800	78.63			13.53	13.60	13.15	15.59
104	24	I-Way Soho	(0171) 734 5734	92.00			17.23	17.77	16.66	19.01
105	92	WSS Internet Access	(01793) 420 764	90.08			17.18	14.56	16.80	27.34
106	98	Wave Rider Internet	(0121) 603 3888	85.15			20.91	14.95	23.03	26.04
107	100	Screaming.net (BT line)	(0800) 3765262	73.28			18.01	15.10	18.86	21.68

How the performance tests work

The *Internet Magazine* provider lab tests are designed to give you all the information you need on the speed and availability of Internet Service Providers. Every month, our testing system accesses each of the ISPs on the list many times. Our system repeatedly checks:

- The availability of the ISP. How easy is it to make the connection? How often are the ISP's modems engaged? If the telco handling the incoming calls gets busy, it reduces the ISP's availability.

- The speed of the connection. How long do a number of popular Web pages take to download?

The overall average Web speed is a weighted average, since most of us want fast loading from UK and US sites, and are less bothered about loading foreign language pages from Europe. To rank the ISPs, we calculate the geometric mean of the availability and average Web performance.

- This month's tests ran over the period 5-26 August 1999.

How the ISPs performed over the past six months

Find out how your service provider has done in our unique chart...

			Free	Subscription	Business		
Provider	Phone	URL	Provider	Phone	URL		
1	Mistral Internet	(0800) 328 7253	www.mistral-uk.net	43	SAQ Internet	(0870) 737 7700	www.saqnet.co.uk
2	REDNET	(01494) 513 333	www.red.net	44	BT Internet	(0800) 800 001	www.btinternet.com
3	ENTANET	(0500) 368 263	www.enta.net	45	Cable & Wireless Internet	(0800) 092 3013	www.cwcom.net
4	Uninet Internet Services	(0800) 783 7499	www.uninet.co.uk	46	Portland communications	(0181) 942 1115	www.portland.co.uk
5	inweb	(0845) 606 2014	www.inweb.net.uk	47	Gifford Internet Services	(0117) 939 7722	www.gifford.co.uk
6	Pinnacle Internet	(01903) 524 999	www.pncl.co.uk	48	WorldWide Web Services	(01784) 898 800	www.webs.co.uk
7	Pavilion Internet	(01273) 607 072	www.pavilion.co.uk	49	Aviators Network	(0700) 284 2867	www.aviators.net
8	Global Internet	(0870) 909 8041	www.global.net.uk	50	Vossnet	(01753) 737 800	www.vossnet.co.uk
9	CompuServe	(0990) 000 200	www.compuserve.co.uk	51	DNA Internet Services	(01604) 670 717	www.dna-is.com
10	Interactive Web	(01926) 450 099	www.wwwuk.net	52	Datanet	(01252) 810 081	www.data.net.uk
11	Internet for Business	(01224) 333 370	www.ifb.net	53	Newbury Internet	(01635) 569 123	www.newbury.net
12	U-Net	(01925) 484 444	www.u-net.net	54	AIC-Entanet	(01279) 306 677	www.aic.co.uk
13	Nildram	(0800) 496 2903	www.nildram.net	55	BT Click	(0800) 731 7887	www.btclickfree.com
14	NetDirect Internet	(0800) 731 3311	www.netdirect.net.uk	56	Netcom Internet	(0800) 980 9107	www.netcom.net.uk
15	Primex	(01908) 643 597	www.primex.co.uk	57	Power Internet	(01908) 605 188	www.powernet.co.uk
16	UKONLINE	(0845) 333 4567	www.ukonline.net	58	CYBERphile Internet	(01543) 454 840	www.cyberphile.co.uk
17	UUNet (Pipex Dial)	(0500) 567 000	www.uk.uu.net	59	Freeseve	(0990) 500 049	www.freeseve.net
18	Gemsoft	(0114) 275 7070	www.gemsoft.net	60	Cable & Wireless Lite	(0800) 092 3001	www.cwcom.net
19	Internet Central	(01270) 611 000	www.netcentral.co.uk	61	Enterprise	(01624) 677 666	www.enterprise.net
20	Direct Connection	(0800) 072 0000	www.dircon.net	62	Cable Internet	(0500) 500 100	www.cableinet.co.uk
21	Sonnet Internet	(0171) 891 2000	www.sonnet.co.uk	63	Ideal Internet services	(01942) 522 333	www.idealnet.co.uk
22	Onyx	(0345) 715 715	www.onyxnet.co.uk	64	Technocom	(01753) 714 200	www.technocom.net
23	ClaraNet	(0800) 358 2828	www.clara.net	65	TIA NET	(0800) 092 6070	www.tianet.com
24	FreeDotNet	(0181) 938 3338	www.thefree.net	66	ICM Netserv	(0800) 614 581	www.netserv.net
25	Freedom To Surf	(0181) 881 2111	www.freedom2surf.net	67	Moonlight	(01276) 856 868	www.moon-light.co.uk
26	SoftProg NET	(0181) 788 0656	www.softprog.net	68	Eclipse Networking	(01392) 202 345	www.eclipse.co.uk
27	Cerbernet	(0171) 360 8000	www.cerbernet.net	69	Abel Internet	(0131) 445 5555	www.abel.net.uk
28	CommUnity Internet	(01865) 856 000	www.community.net.uk	70	Connect FREE	(0870) 742 1111	www.connectfree.net
29	Frontier Internet Services	(0171) 536 9090	www.ftech.co.uk	71	DIALNet Connect	(0800) 881 881	www.dialnet.com
30	Mitsubishi Electric Internet	(0800) 226 600	www.menet.net	72	UK2Net	(0171) 538 0253	www.uk2net.com
31	London Web Communications	(0800) 026 8306	www.londonweb.net	73	Telinc Internet Services	(0800) 542 0800	www.telinc.co.uk
32	Intonet	(0181) 941 9195	www.intonet.co.uk	74	WSS Internet Access	(01793) 420 764	www.WSkiSoft.co.uk
33	NewNet	(07000) 639 638	www.newnet.co.uk/home	75	I-Way Soho	(0171) 734 5734	www.i-way.co.uk
34	ProWeb	(0500) 636 343	www.proweb.co.uk	76	The Internet Business	(01232) 424 190	www.tibus.net
35	Netkonect	(0171) 345 7777	www.netkonect.co.uk	77	Force 9	(0800) 073 7800	www.force9.net
36	Prestel Online	(0990) 223 300	www.prestel.co.uk	78	Virgin Net	(0500) 558 800	www.virgin.net
37	CableNet	(0800) 195 8888	www.cablenet.net	79	Baynet	(01222) 256 401	www.baynet.co.uk
38	Interalpha	(01703) 363 200	www.interalpha.net	80	Free-Online	(0870) 706 0504	www.free-online.net
39	HiWay	(01635) 573 300	www.hiway.co.uk	81	Zoo Internet	(0181) 961 7000	www.zoo.co.uk
40	Cygnet Internet Services	(0181) 880 4650	www.cygnet.co.uk	82	Wave Rider Internet	(0121) 603 3888	www.waverider.co.uk
41	Legend Internet	(01274) 743 500	www.legend.co.uk	83	Which? On-line	(0645) 830 240	www.which.net
42	LineOne	(0906) 302 0100	www.lineone.net				

Top performers in the past six months

As well as our normal tests, every month we produce a table showing how the ISPs have performed over the last six months. This is created by averaging the monthly results for availability and Web access speed. The table only includes ISPs that have figured in our monthly tables in every one of the past six months. Some providers aren't included because we only began testing them recently. Others haven't made it because we had problems testing them in at least one of these months. Exclusion from this table simply means that, for some reason, an ISP wasn't tested for six consecutive months – it's no reflection on the quality of the ISP's service.

The results

This month, 83 providers have qualified for our six-month tests. Mistral Internet takes the honours the top spot – the same place it occupies in the monthly table. Last month's winner, REDNET, moves to number two. ENTANET joins

the six month tables for the first time and goes in at number three thanks to good consistency.

The rest of the top 10 consists of the same companies as last month, with minor changes in position. The single exception is Global Internet, which rises six places to number eight. Inweb and Pavilion are now the only ISPs in the rankings with a 100 per cent availability record for the entire six months.

Datanet, Cygnet and Newnet have all seen improvements in their six-month rankings, thanks to good performances this month. Cable & Wireless Internet also deserve a mention, having risen 13 places to 45th. UKONLINE is once again the top free ISP, despite falling three places this month to 16th. FreeDotNet has caught up a little, rising four places to 24th.

Which? On-line is still languishing at the bottom due to poor results in past months. Virgin Net will also have to wait a while before eradicating its poor history.

Each month, as well as adding the new data from the monthly tests, we drop the data for the monthly results seven months ago. This removal has as much influence on the six month rankings as the addition of the new data.

The improvements we've made to our test system recently (see page 124) have added stability to the monthly results, and they've reduced the extreme figures we used to get for slow downloads.

These figures can dominate the six month averages, so we've reduced them using a mathematical formula. Before they're added into the averages, the figures for older test months are now adjusted so they conform to the numerical spreads we get from our current tests.

This adjustment lets us produce a worthwhile average across the period of test system improvement. Remember, if you're looking for consistency from your service provider, these are the results to watch.

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This month's best performing hosting companies

UK Web throughput (Kbps)				UK Web throughput (Kbps)			
Host Name	Host URL	Availability		Host Name	Host URL	Availability	
1 Nildram	www.nildram.net	961.60	99.89%	58 IFB	www.ifb.net	91.63	99.84%
2 NewNet	www.newnet.co.uk	880.08	99.84%	60 Alcom Internetix	www.alcom.co.uk	91.33	90.95%
3 Primex Internet Solutions	www.primex.co.uk	870.29	99.91%	61 Globewide Internet & Software Services	www.globewide.com	89.84	88.70%
4 easynet	www.easynet.co.uk	661.44	99.98%	62 I-Way Limited	www.i-way.co.uk	87.58	99.84%
5 Demon Internet	www.demon.net	660.86	97.93%	63 East Midlands Network (EMNET)	www.emnet.co.uk	83.63	98.02%
6 Net Direct	www.netdirect.net.uk	582.40	99.49%	64 Zetnet Internet Service	www.zetnet.co.uk	82.82	99.85%
7 Technocom PLC	www.technocom.net	563.39	99.91%	65 Prestel On-line	www.prestel.co.uk	82.51	97.93%
8 Direct Connection	www.dircon.net	533.31	99.89%	66 Scotland Online	www.scotland.net	82.38	97.86%
9 Virtual Internet	www.vi.net	533.15	99.75%	67 PSINet UK Ltd	www.uk.psi.net	80.22	98.83%
10 VBCnet	www.vbc.net	524.50	99.56%	68 UK Fast Hosting	www.ukfast.co.uk	74.92	97.58%
11 Frontier Internet Services	www.ftech.co.uk	469.22	99.86%	69 Soft Options UK	www.softopt.co.uk	74.65	99.13%
12 Paradise Internet Network Services	www.pins.co.uk	408.94	99.88%	70 Digiserve	www.digiserve.co.uk	72.57	98.48%
13 GX Networks	www.gxn.net	369.14	99.20%	71 Onyx Internet	www.onyxnet.co.uk	72.09	99.47%
14 FDD	www.fdd.co.uk	316.55	99.84%	72 Telinco	www.telinco.net	70.33	96.41%
15 Netcom UK	www.netcom.net.uk	310.80	99.82%	73 Internet Central	www.netcentral.co.uk	67.14	98.97%
16 UUNET UK	www.uk.uu.net	302.49	99.24%	74 Corpex	www.corpex.com	66.30	99.91%
17 WebWorlds.co.uk	www.webworlds.co.uk	295.16	97.54%	75 iNetUK	www.inetuk.net	62.54	84.80%
18 Magic Moments	www.directdomains.com	280.61	100.00%	76 Tripod UK	www.tripod.co.uk	62.19	99.93%
19 ClaraNet Ltd	www.clara.net	277.56	99.47%	77 York UK Hosting	www.york-uk.com	60.66	92.32%
20 Internet Network Services	www.insnet.net	269.09	99.47%	78 ENTANET	www.entanet.net	59.28	99.24%
21 U-NET	www.u-net.net	258.22	99.68%	79 The Web Factory	www.webfactory.co.uk	59.12	99.22%
22 NetBenefit	www.netbenefit.co.uk	249.51	99.63%	80 Myratech	www.myratech.co.uk	58.44	98.20%
23 K-web Internet	www.k-web.co.uk	242.78	96.92%	81 REDNET	www.red.net	49.25	99.84%
24 Egg	www.eggconnect.net	223.85	99.45%	82 D.Net	www.dnet.it	48.61	96.40%
25 Netcentric Solutions Ltd	www.netcentric.co.uk	199.60	99.19%	83 Plugin.co.uk Limited	www.plugin.co.uk	47.83	99.24%
26 Netcetera	www.inet.net	191.36	99.54%	84 AIC-Entanet	www.aic.co.uk/entanet	44.94	99.17%
27 BT WebWorld	www.btwebworld.co.uk	175.75	99.63%	85 1st Solution Internet	www.1st-solution.net	43.39	99.75%
28 EntWeb	www.entweb.co.uk	165.19	99.91%	86 Metronet	www.metronet.co.uk	40.94	100.00%
29 Worldwide Web Services	www.webs.co.uk	160.96	97.08%	87 Legend Internet	www.legend.co.uk	40.45	98.64%
30 Server World	www.serverworld.net	159.36	99.88%	88 Shared Knowledge	www.sharedknowledge.net	31.96	99.52%
31 Datanet International	www.data.net.uk	155.85	99.26%	89 UKIP	www.ukip.co.uk	30.65	99.24%
32 Cherryblue Internet Ltd	www.cherryblue.com	155.83	99.89%	90 Far Networks	www.far.net	30.37	99.93%
33 .netkonec	www.netkonec.co.uk	155.26	99.20%	91 Thames Global Internet Services	www.tgis.co.uk	29.52	99.19%
34 Cheapnet Ltd	www.cheapnet.co.uk	152.11	100.00%	92 Ultraspeed UK Limited	www.ultraspeed.co.uk	28.88	99.72%
35 Wessex Net	www.wessex.net	150.57	98.31%	93 Quza	www.quza.com	25.59	99.59%
36 Ace Internet	www.ace-internet.co.uk	148.35	99.63%	94 Exploit Information Technology Ltd	www.exploit.co.uk	24.74	98.29%
37 Community internet plc	www.community.co.uk	140.60	99.40%	95 gradwell dot com Limited	www.gradwell.com	24.01	99.90%
38 Premier internet 2000	www.pizooop.net	138.78	99.69%	96 Design Heaven	www.designheaven.com	23.93	99.52%
39 IDnet	www.idnet.net.uk	136.39	98.18%	97 Vital Online Ltd	www.vital.co.uk	23.88	99.86%
40 Research Machines	www.rmplc.co.uk	129.79	99.82%	98 VillageNet	www.villagenet.com	23.30	99.69%
41 Abel Internet	www.abel.net.uk	128.99	97.19%	99 Calligrafix	www.calligrafix.co.uk	23.16	97.86%
42 Pavilion Internet	www.pavilion.co.uk	125.82	99.95%	100 Global Gold Network Ltd	www.globalgold.co.uk	22.42	98.43%
43 Cocoon Internet Services	www.cocoon.co.uk	123.26	99.93%	101 Multimedia Machine Ltd	www.mmm.co.uk	21.18	98.16%
44 Total Web Solutions	www.totalweb.co.uk	122.26	99.56%	102 LDS Technology Ltd	www.lds.co.uk	20.68	99.10%
45 Tecc Ltd	www.tecc.co.uk	120.03	99.38%	103 Cybase Ltd	www.cybase.co.uk	19.36	99.07%
46 Sonnet Internet Ltd	www.sonnet.co.uk	113.69	99.70%	104 Data Link Internet	www.data-link.net	15.26	98.62%
47 Cerbernet Ltd	www.cerbernet.net	113.28	99.75%	105 WinNet	www.win-uk.net/	14.71	98.69%
48 Zoo Internet	www.zoo.co.uk	109.84	99.91%	106 ME-NET!	www.me-net.net	13.36	94.40%
49 Cygnet Internet Solutions	www.cygnet.co.uk	105.09	99.86%	107 Stratus Net	www.stratus.net	13.17	99.93%
50 Shellnet	www.shellnet.co.uk	103.73	97.06%	108 Apanet	www.apanet.co.uk	12.63	91.47%
51 Netlink Internet Services	www.netlink.co.uk	103.20	98.14%	109 Andover Online	www.andover.co.uk	12.44	99.47%
52 London Web	www.londonweb.co.uk	100.65	99.31%	110 Reeds Web Hosting	www.reedsweb.net	12.42	94.66%
53 Club24 Internet	www.club24.co.uk	98.25	99.95%	111 Adept	www.adept.co.uk	12.15	99.38%
54 Hiway	www.hiway.co.uk	97.10	99.91%	112 Timewarp	www.timewarp.co.uk	9.91	97.72%
55 edNET	www.ednet.co.uk	95.64	99.86%	113 Gibnet Limited	www.gibnet.gib	6.57	98.30%
56 Atlas Internet	www.atlas.net.uk	93.08	99.38%	114 Versus.NET	www.versus.net	6.30	94.41%
57 Charis Internet Services	www.charis.net	92.60	99.86%				

Web performance host tests

You've entrusted your beloved Web site to a Web host. But is it downloading quickly and reliably, or struggling down the wire? In conjunction with Zeus Technologies, we put 114 Web host companies to the test.

Nildram moves up seven places to the top spot with an incredible throughput of 960 kbytes/s. NewNet just pips Primex to second place with its throughput figure. Server World gained 22 positions last month and climbs 20 places this month to 30th. October's biggest riser is Netcetera, which gained 38 places to reach 26th. Abel Internet has risen 27 places to 41st.

Towards the bottom of the table, Reeds Web Hosting has fallen 47 places and finishes 110th. Prestel On-line drops 36 places to 65th.

Many new Web hosting companies have joined our test program. There are 114 this month, compared to 88 in September. Throughput speeds have also risen, due mainly to our improved testing, with five machines on faster links operating 24 hours a day in the UK.

How the tests work

We've based the rankings on how fast pages download from a host server to our machines. Our test system tries to contact the host every 15 minutes, 24 hours a day. The availability figure shows how often it gets through.

The tests ran over the period 1-20 August 1999. For more details on how the tests are carried out, plus a look at how the current tests are going, visit www.webperf.net.

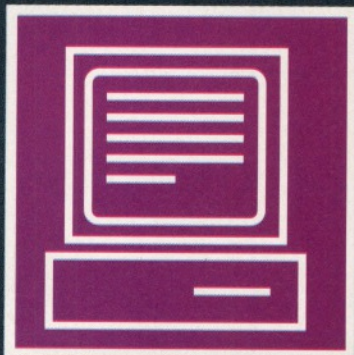
More about the company behind the Web host tests



The Internet Magazine Web host tests are carried out by Zeus Technology, which provides Web hosting companies and ISPs with high performance, easy to use, feature rich Web server software. Zeus Technology has crafted the fastest and most scaleable Web server software in the world, providing mission critical reliability to its customers. Designed for large-scale I-commerce solutions, the company's products contain the strongest levels of security available. Zeus Technology and Internet Magazine are committed to delivering the best Web host service testing in the UK. For more details, see www.zeustechnology.com.

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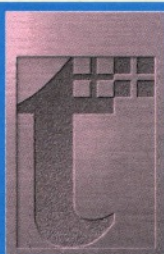
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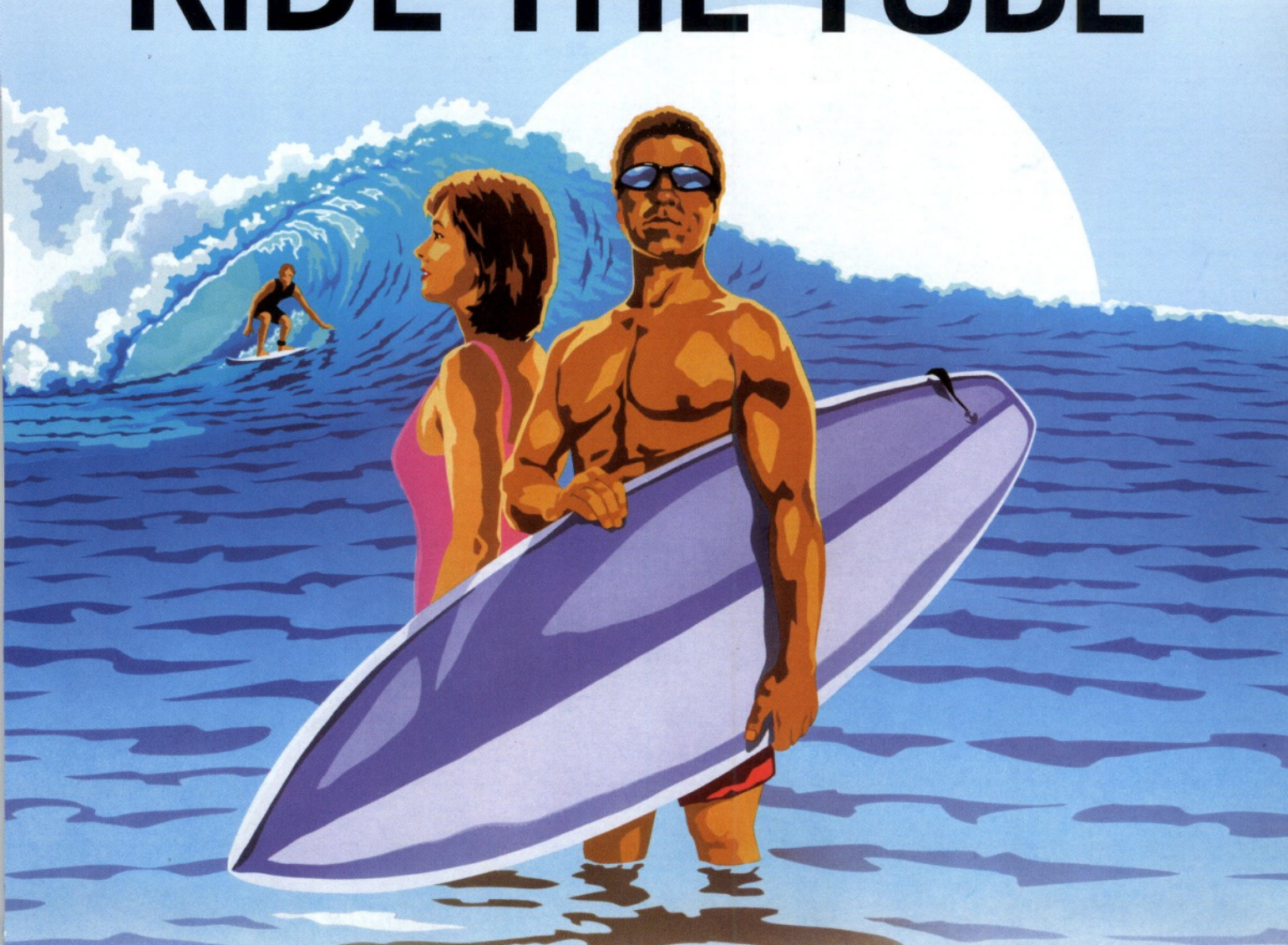
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